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JPRS L/8778

21 November 1979

West Europe Report

(FOUO 64/79)

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WEST EUROPE REPORT

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SPECIFICATIONS FOR NEW ANTITANK HELICOPTER A-129

Rome RIVISTA MILITARE in Italian Jul-Aug 79 pp 27-33

[Article: "Antitank Helicopter"]

[Text] A New Weapon System for the Army

The General Staff of the Army, within the framework of a materiel policy aimed at increasing operational effectiveness through renovation of the existing lines and acquisition of new equipment, plans to give a special push to antitank defense by means of several measures, among which is the construction of an airborne platform capable of augmenting the effectiveness of the long-range antitank weapons.

It should be recalled here that reaction against an enemy armored threat is articulated over short, medium and long distances, and that different weapons systems, designed and optimized so as to be most effective within a certain band of range, are provided for each of them.

As regards the long-range weapons systems, which today belong to the family of wire-guided missiles with automatic or semiautomatic guidance, the operational environment very often imposes serious limitations on their use, mainly because of the limited depth of the field of observation and the field of fire.

Thus it is that an airborne platform, capable of overcoming such limitations, can restore full usefulness to such weapons, in terms of the maximum performance characteristics provided for. In addition, thanks to the intrinsic flexibility of aircraft, formations of aircraft with specific antitank capacities can represent an extremely mobile reserve with which to meet an armored threat, filling the gap in the event of a temporary shortage of units on the ground, whose mobility is sometimes impeded by the limitations imposed by the terrain or by enemy tactical air forces.

The General Staff of the Army, acting on the proposal made by the nation's largest helicopter industry to develop an antitank helicopter on the basis of the operational requirements defined by the Armed Forces, has therefore supported the participation of the defense establishment in the financial cost of the development of such a piece of equipment.

Once the development of this aircraft has come to a positive conclusion, a program to purchase a sufficient number of units will be started, with the funds coming from those made available by the law of 16 June 1977 for modernization of the Army's weaponry, materiel, gear and equipment, within the framework of antitank defense.

The program for development of the A-129 helicopter--this is the initial designation of the aircraft in the phase of its creation by Agusta Aeronautical Construction--has been started, and should be completed by 1982.

RIVISTA MILITARE considers it useful to give its readers a preview of the technical aspects of the future helicopter, illustrating its essential characteristics and performance data, as well as its operational configuration.

For this purpose, instead of an arid description and exposition of data it seemed useful to interview the officer who has been given responsibility by the General Staff of the Army for coordinating the various activities connected with the development program; this will also clarify better the reasons behind the choices made among various possible approaches.

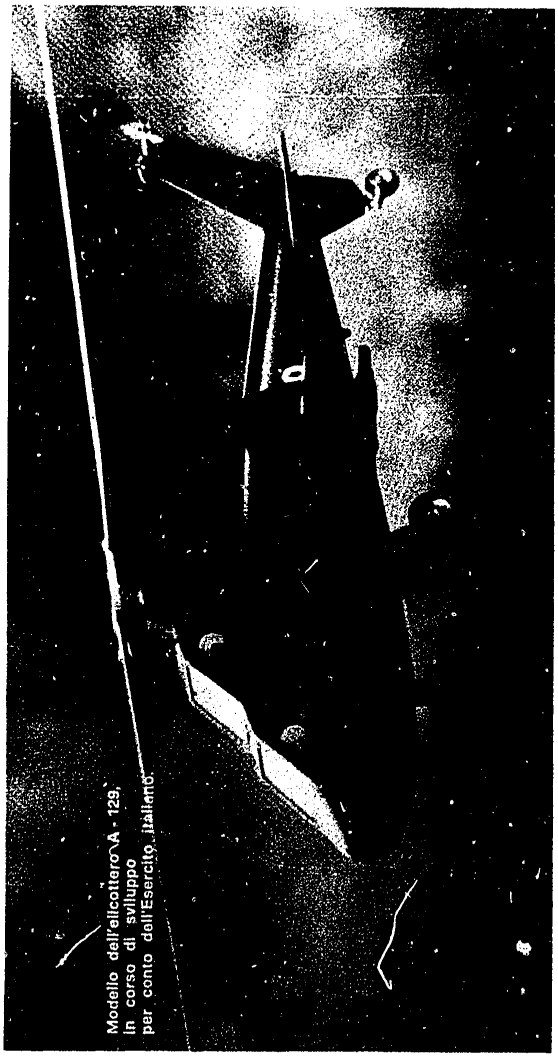
The interview is limited to the unit itself, which is the basic element in the three-sided whole--"unit - criteria of use - training"--that makes up a weapon system.

In due time, our treatment will be extended to the other aspects of the program, so that the helicopter can be viewed in its entirety within the operational reality of our Army, as one of the factors which, together with the other equipment existing or to be acquired in future, will be able to help give the ground forces a more modern configuration.

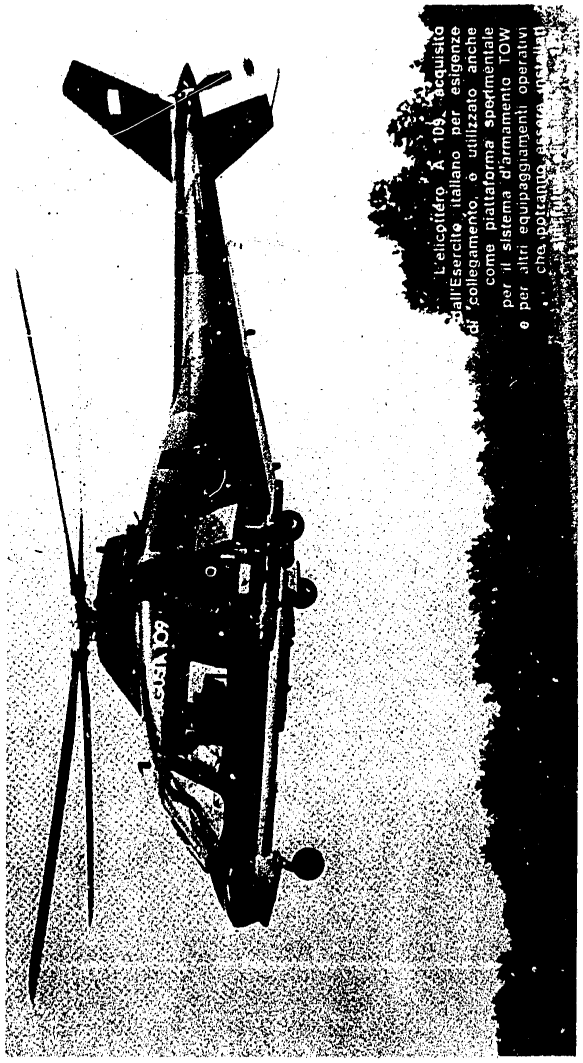
> The questions were asked of tank navigating officer and observer Col Emidio Valente, the officer responsible, within the Army General Staff, for coordinating the development program for the A-129 helicopter.
>
> This officer, who has studied at the Academy of Modena and took part in the war operations of the last conflict as commander of a tank platoon, has had long and intensive experience in the Army's Light Aviation, both in the field of flight training and in research and study activities in this specific sector.

Coexistence with Other Antitank Helicopters

[Question] The Italian Army has tested and approved an antitank version of the A-109 helicopter armed with TOW missiles. Will this aircraft be adopted and placed in service? And if so, is the A-129 intended to coexist with the A-109 or to take its place?



Model of the A-129 helicopter, being developed for the Italian Army



The A-109 helicopter, acquired by the Italian Army for liaison purposes, is being used also as an experimental platform for the TOW weaponry system and for other operational equipment which may be installed on the future A-129 helicopters.

[Answer] The Army General Staff has used the A-109 as a "test bench" for verifying, on the technical and operational levels, the validity of the proposal for development of a light antitank helicopter.

As such, it has shown itself to be an excellent and valid platform for the weapons system: this is confirmed by the exceptional results of the test-firing programs, with 100 percent of the shots on target. In this configuration, therefore, it could be a good transitional antitank helicopter, like, for example, the SA-340 Gazelle (France) and BO-105 (FRG) helicopters, both of which are armed with HOT missiles, and the H-500 (U.S.) and WG-13 Linx (Great Britain) helicopters, which are armed with TOW's instead.

Nevertheless, the General Staff of the Army has decided to go ahead with acquisition of a "combat-specialized" craft, on the considered conviction that only a unit in which all the elements necessary for carrying out successfully the basic mission assigned to it are considered in harmonic combination, from the proposal stage on, can furnish the best operational output and an excellent cost-effectiveness ratio.

Therefore, the A-129 will not take the place of other antitank helicopters, but will go into service definitely filling a gap in that particular sector.

Comparison of the A-129 with the Existing Attack Helicopters

[Question] The A-129 will therefore be a true combat helicopter and not an "armed helicopter"--that is, an aircraft created for other requirements and subsequently equipped with a weaponry system. Thus it can be compared with attack helicopters already existing, such as the Cobra and the AH-64 of the United States Army and the Hind of the Soviet Union. Can you indicate to us the principal differences between the Italian helicopter and the foreign ones?

[Answer] It is a matter of machines of different classes--indeed, of different "formulas." Let us point out immediately that the Soviet Hind helicopter is actually a cross between an attack craft and a troop-transport craft, almost an aerial version of an infantry-combat vehicle. In any case, there is no equivalent of it in the Western world, even if, years ago, Sikorsky designed a similar unit, the Black Hawk, which, however, was not continued with.

But a comparison is possible with the AH-1 Cobra and the AH-64, both produced by the United States.

The A-129, as its designation indicates, is a "light antitank" helicopter. Why light, and why antitank?

As regards its weight, I would quite simply like to remind you that everything has its price at "so much per kilo," and that the kilos of modern aircraft, especially if they are highly sophisticated, are very expensive. Therefore, an effort has been made from the outset to specify the unit's primary function and the parameters of its basic operational mission and to "build around it" the corresponding airframe, in a compact and essential configuration.

In addition, in order to keep weight and size down, application of advanced technologies--which, besides filling that purpose, help to increase the unit's technical-operational reliability--has been requested. In this way, with a takeoff weight of only 3,500 kg, the A-129 will be capable both of carrying out effective antitank action and of taking strong action, with an alternative armament system, against objectives of a different kind.

The Cobra is an attack helicopter built in 1965, as a derivative of the general-use UH-1B helicopter (in Army Light Aviation, AB-204), to meet the urgent requirements of the Vietnamese conflict. The Cobra, a good example of the technical design of its time, is still in service in the United States Army, after undergoing a "rejuvenation" process to make it capable of filling the void that would have been created while an attack helicopter of advanced design was awaited.

Such, in fact, is the Hughes AH-64, which, selected through a competition organized by the United States Army, is still in the advanced development phase, while the decision of Congress regarding its definitive introduction into service is awaited. It is a heavy helicopter, about 7 tons at takeoff, and is equipped with a considerable variety of armaments (HELLFIRE antitank missiles, 30 mm machine gun, 70 mm rockets); it is designed essentially to carry out offensive roles within the overall concept of air mobility as understood in the United States Army.

Configuration for Basic Operational Mission

[Question] What is the configuration of the A-129 for its basic operational mission? And what is the outline of that mission?

[Answer] The basic operational mission--antitank--provides for a total round trip of about 200 km, largely in tactical flight, with long phases of stationary flight without ground effect. For calculation of range and performance characteristics, the most demanding use conditions, both as regards ambient factors and for purposes of fuel consumption, have been considered. As regards fuel, the essential parameters refer to flight at zero altitude; as regards performance characteristics, they refer to a temperature of 35 degrees centigrade at sea level--and among the performance characteristics, especially the possibility of doing stationary flight without ground effect up to 2,000 meters.

Under such conditions, the A-129 must be able to transport 8 TOW missiles and enough fuel for 2-1/2 hours of flight.

[Question] Why is the A-129 a twin-engine helicopter?

[Answer] In the present state, aeronautical engines have reached a very high level of efficiency and reliability. The choice of the twin-engine formula was not imposed by technical reasons, but rather essentially because of considerations of an operational nature. This configuration in fact increases the factors of safety and survival capacity that it was desired to stress in

the helicopter. Since total passive protection of the engine machinery is not achievable, it was desired to avoid the possibility that a single hit taken by the engine itself could put the aircraft out of combat. In other words, even with one engine down because of breakdown or enemy fire, the A-129 will be able either to continue on its mission or get back to base, or in the worst case, carry out a controlled descent.

Single-Engine Performance Characteristics

[Question] What are the A-129's performance characteristics with a single engine?

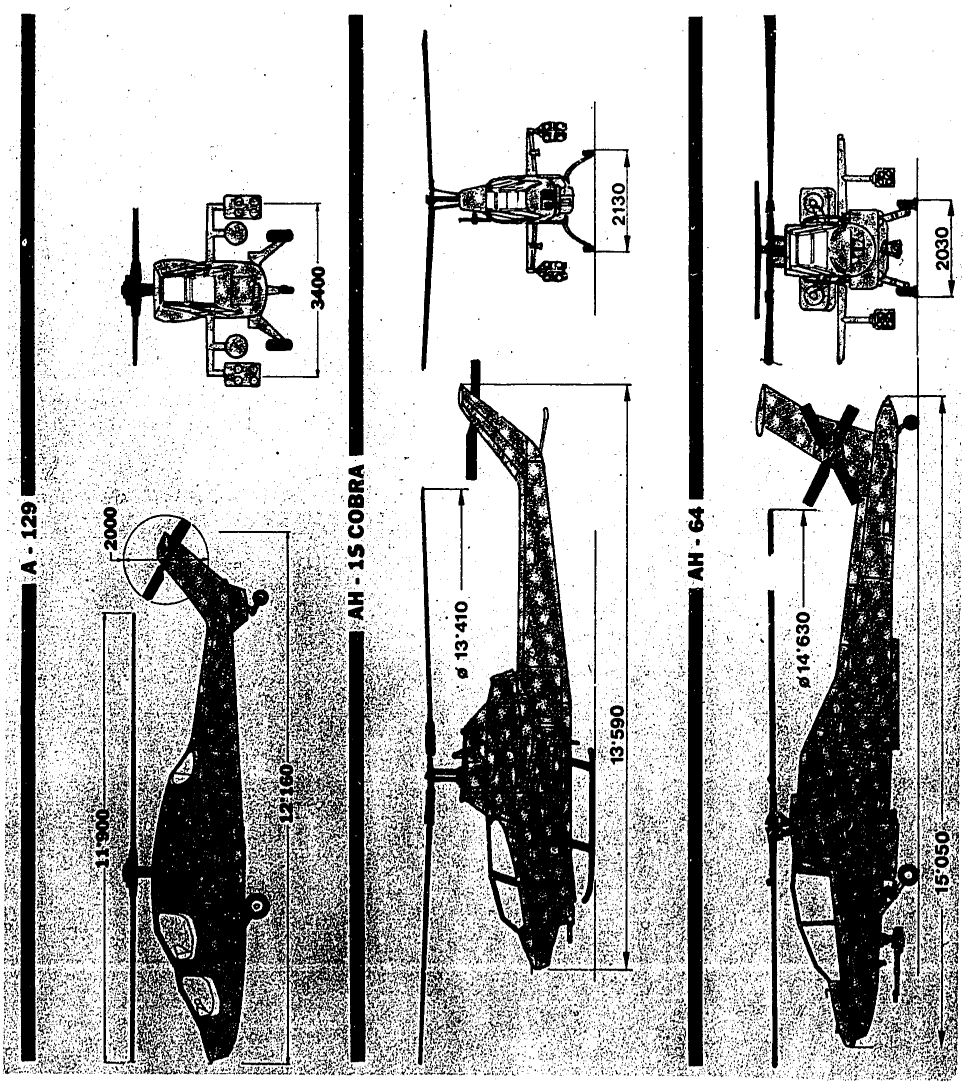
[Answer] Limiting ourselves to the most significant of them, it is sufficient to cite climbing speed, which, at 3,500 kg weight, is still 2.9 meters per second at sea level and 0.5 meter per second at 2,000 meters under high-temperature conditions. This represents, in practice, the possibility of continuing with a mission, albeit with reduced performance characteristics.

Principal Characteristics and Performance Data	AH-129	AH-1 S	AH-64
Weight at takeoff for basic operational mission (kg)	3,500	4,535	6,650
Installed power (HP)	2 X 850	1 X 1,800	2 X 1,536
Maximum speed in armed configuration (km per hour)	285	225	293
Ceiling in stationary flight without ground effect (meters)	2,700	*	3,780
Range in hours for basic mission	2 hours 30 min.	*	1 hour 50 min.
Antitank armament	8 TOWs	8 TOWs	16 HELLFIREs
Supplementary armament	rockets	rockets and 20 mm machine guns	rockets and 30 mm machine guns

* Data not available

With a weight of 2,549 kg for the aircraft without external loads, with a single pilot, and with about 200 kg of fuel, takeoff is possible at 2,150 m or at 1,500 m under standard ambient conditions or with high temperature, respectively..

[Question] What are the flight characteristics of the A-129?



[Answer] In tactical flight at low altitude, controllability and maneuverability are especially important so as to take timely advantage of the cover offered by the terrain, carry out evasive maneuvers and make rapid changes of position. In the A-129, these characteristics are especially well-developed: with the capacity to tolerate high negative and positive load factors, the helicopter can reach the speed of 110 km per hour in about 10 seconds. The same time is sufficient for decelerating to a stop. Laterally, on the other hand, it can accelerate to 40 km per hour in only 5 seconds, and stop in the same time. The climbing speed of 10 m per second is also excellent.

[Question] What is the importance of good climbing speed?

[Answer] This performance characteristic indicates an aircraft with enough power to be agile and maneuverable and with enough power to use in case of emergency.

Armament and Ammunition

[Question] What combinations of weapons and munitions can be put on the A-129?

[Answer] As I have already said, the A-129 will be armed with the TOW wire-guided antitank missile system and with an advanced type of free-flying rocket system. For the basic antitank mission, eight missiles can be installed. Alternatively, for firing action of other kinds, 52 rockets can be mounted. Various other weaponry combinations are possible, in function of range, among other things.

[Question] What considerations lay behind the choice of the TOW system?

[Answer] There were two simple and convincing reasons. The first is that the TOW system, among the second-generation systems available, is the only one with long and excellent operational experience behind it. It therefore represents a secure point in the development of a new and complex system such as the A-129.

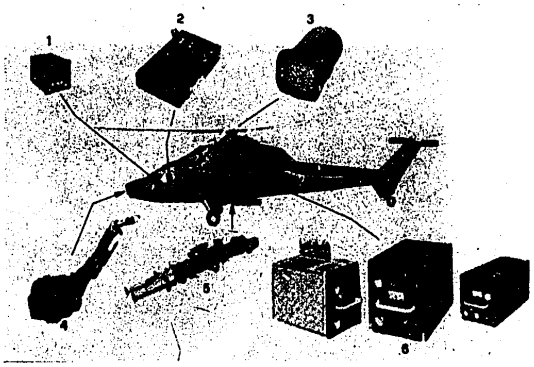
The second reason is that our antitank units are already equipped with the ground version of the TOW, and this offers obvious economic and logistic advantages.

[Question] Is subsequent substitution of the TOW by more advanced antitank systems, of the third generation, anticipated--for example, the missiles with completely automatic guidance, of the so-called "launch it and forget it" type?

[Answer] I think that the TOW will be operationally useful for a long time to come, considering that the improvements already planned for the system's helicopter version--night vision and laser telemetry--will certainly increase its effectiveness. On the other hand, it is planned for the A-129 to remain in service for at least 20 years. It is obvious that during such a period,

any technological advance relative to the on-board systems, including armament, can be introduced in due time, in such a way that the aircraft can maintain a constant and up-to-date technical-operational validity.

Installation of the TOW System on the A-129



1. Control panel
2. Manual aiming control
3. Reference indicator for pilot
4. Telescopic aiming unit
5. Missile launcher
6. Electronics unit

In addition, the third-generation antitank system is one of the objectives pursued by the Army General Staff, taking into account also the specific requirements in the air mobility sector.

[Question] Why will the A-129 be armed with free-flying rockets also?

[Answer] When the operational requirements of the antitank helicopter were defined, the problem of alternative armament vis-a-vis the primary missile armament was examined; as a practical matter, the choice could be for rockets and heavy and light machine guns.

With close evaluation of the operational situations in which the aircraft might find itself, and taking into account the connection with maintenance of weight at the lowest possible level, it was observed that rocket armament represented the most suitable solution. In fact, with negligible increase in weight for installation of the command and control equipment, it is possible to have an alternative armament system that is effective and at the same time adaptable to different forms of operations.

Naturally, when we refer to rockets we do not mean a conventional system, of the type that can be used by fixed-wing aircraft, with methods that we can call classic--that is, firing in sharp bursts, at high speed and from close distances, and therefore with great precision and minimal scattering.

From a helicopter, the situation is completely different: it is necessary to launch from low altitude, at low speed and at the greatest distances--in other words, under the worst conditions for precise and concentrated firing. It is

possible to remedy this with an advanced system, one which, in practice, requires of the pilot only accurate directional aiming, which is easy to do, while a computer automatically commands the elevation of the rocket launcher in function of the distance measured by laser telemetry, the type of munition preselected, the data on the ambience and the trim of the helicopter, and if it has been decided to carry out a firing in time, adjusts the fuses of the rockets.

Resupplying in the Field

[Question] In a combat situation, how much time is necessary for resupplying the A-129 with fuel and munitions?

[Answer] Only a few minutes. In fact, the operational requirements indicate the necessity for the fuel installation to be capable of being filled by a pressure system with a capacity of 200 liters per minute, which means not more than 5 minutes for filling up. It is also required that loading with munitions be done in a time no longer than that. In addition, the requirements establish that the time for changing configuration be no longer than 30 minutes. In reality, as regards dismounting the missile launchers and mounting rocket launchers in their place, or vice-versa, such operations will take no more than 4 to 5 minutes.

In this connection it should be stressed that to ensure the maximum operational continuity of the helicopter, advance resupply points will have to be provided for, equipped with the necessary field-type equipment for furnishing adequate assistance. Furthermore, the A-129 will be able, in case of necessity, to get support from the ground units armed with TOW missiles and also to use automotive fuel.

Night Capacity

[Question] What can you tell us about the possibilities for night use of the A-129?

[Answer] It is obvious that the antitank helicopter would not justify its cost if it were not capable of operating with continuity throughout the 24 hours of the day, with minimum limitations due to ambient conditions.

As regards night vision, the problem is a double one, in that it has to be guaranteed both for the firing function and for the piloting function. The solution that seems most obvious today is that based on the so-called "thermal infrared." Therefore, the installation of two FLIR (Forward-Looking Infrared: infrared system with forward vision) systems is planned: one to be integrated into the apparatus for aiming and commanding the TOW missiles, and the other to be installed separately and useable by the pilot.

[Question] Can the FLIR be used in daytime also?

[Answer] Certainly. The FLIR provides a virtual image based on the thermal contrast of objects between one another and with respect to the ambience. It can therefore be useful in daytime also, both for disclosing concealed objectives and for facilitating navigation under conditions of low visibility.

[Question] As regards nighttime piloting, don't you think it is especially difficult for the pilot to control flight by observing a kind of television screen, with little possibility of controlling the on-board instrumentation at the same time?

[Answer] It should be made clear that both the pilot and the copilot-gunner of the A-129 will have a valuable complementary piece of equipment, called in English a "helmet sight"--that is, a collimator integrated into the helmet. In reality, this apparatus will have various important functions.

The first is that of commanding, with a simple movement of the head, the training of the aiming and night-vision devices, so as to permit immediate transition from sight observation to instrumental observation, gaining precious seconds.

The second is that of presenting the image of the FLIR directly in front of the eye of the operator, and especially of the pilot, without the necessity of observing the screen, which is there anyway, thus eliminating the psychological discomfort of piloting with head down--that is, in an entirely unnatural way. This possibility exists for the copilot-gunner also, as an alternative to the FLIR image presented in the TOW-aiming instrument.

The third is that of presenting in the operators' field of vision several essential data relating to flight (altitude, speed, trim, etc), to the functioning of the unit, and to the mission in progress (for example, distance to objective).

[Question] What navigation systems will be provided on the A-129?

[Answer] The fundamental system will be completely autonomous--that is, independent of the existence of external radio aids. This system, of "Doppler" type, will make it possible to program an entire mission and to follow, with very high precision, a broken course consisting of at least 10 different stretches. Other complementary functions of considerable utility for carrying out missions are also possible.

In addition to this system, the A-129 will be equipped with automatic radiogoniometry and with a device that makes it possible to carry out an approach to any field-type ground station operating in the frequency-modulation VHF range.

Finally, for approach and landing in conditions of limited visibility, installation of a microwave system in correlation with field-type equipment on the ground is planned.

[Question] How is the problem of communications on the A-129 being solved, considering the fact that it will normally be used at extremely low altitudes and at considerable distances from the Commands that will exercise operational control over the antitank helicopter units?

[Answer] We believe we have considered all the various necessities relative to aeronautical-type links, with the ground units at short-to-medium distances and with the Large-Unit Commands at medium-to-long distances.

The A-129 will in fact be equipped with UHF sets for the first of these requirements, with VHF/FM for the second, and HF for the third. Considering the propagation problems normally associated with the use of high frequencies, the HF set that will be installed will have advanced characteristics in order to eliminate or reduce the consequent limitations.

It is useful to point out here that all the sets will be under "centralized management," in the sense that a single control panel connected with a cathode-ray tube will permit selection and control of all the various functions. In addition, this approach will produce a considerable saving of space and weight.

Vulnerability and Survival

[Question] What can you tell us about the A-129's vulnerability and its battlefield survival capacity?

[Answer] We have resisted the temptation to make a "flying armed tank"--first of all, because tanks are not invulnerable either, and secondly, because of obvious technical impossibility. Nevertheless, certain elements for passive protection, limited to the essential organs of the on-board installations, and partly to the crew, are being provided for. These elements are useful against shrapnel or small-caliber ammunition, with the criterion of avoiding heavy damage by a small effort on the part of the enemy.

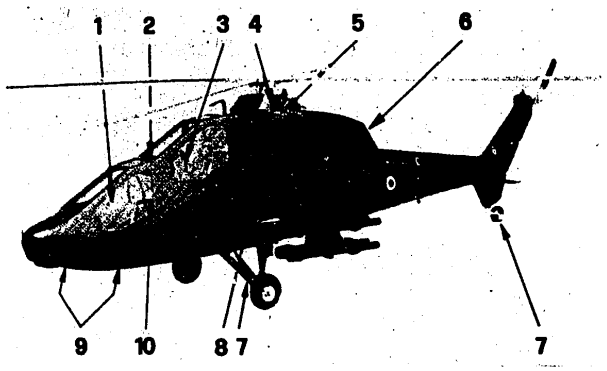
Actually, the protection of the helicopter and its survival capacity are functions of very different and specific factors.

First: the flight performance characteristics, the maneuverability and handling control that make it possible to adopt use procedures, and especially tactical-flight procedures, of such a nature as to derive maximum advantage from the cover of the terrain and from the possibility of carrying out evasive maneuvers and changes of position rapidly.

Second: the adoption of observation and weaponry-aiming systems that permit action from great distances, beyond the radius of action of the enemy weapons, whether antiaircraft or not, which represent the greatest threat.

Third: the drastic reduction of the emanation of energy--light, heat, sound--useful to the enemy for detection of the aircraft and for the use of weapons with autoguidance capacity.

Survival of the A-129



1. Armor-plated energy-absorption seats
2. Crash bar
3. Pressurization filter
4. Rotor support structure
5. Automatic fire extinction
6. Engine-IR suppression
7. Energy-absorbing tail wheel and carriage
8. Shock-resistant fuel tanks
9. Energy-absorbing structure
10. Ejectable canopy

Also: radar alarm, laser alarm, radar jammer, IR jammer.

Fourth: installation of alarm devices warning against radar-type or laser-type detection or aiming systems, and devices for jamming radar and for jamming weapons with autoguidance capacity based on emanation of thermal energy.

Fifth: effective filter-pressurization of the cabin against CBR [expansion unknown] agents.

Sixth: intrinsic structural capacity to absorb violent shocks against the ground, in association with the existence of a fuel installation designed to avoid the most dangerous consequence of a heavy landing: fire.

Seventh: twinning of several essential installations, such as the hydraulics and the electrical system, at least for the main functions.

The question asked of me gives me the opportunity to correct, as regards vulnerability, a distorted way of evaluating the combat helicopter, both on the part of those who support it and of those who denigrate it.

The helicopter, considered in isolation, is not and cannot be the absolute weapon, a means capable of deciding a combat. But it is an important element in a harmonic complex of weapons, each of which receives support and protection to the others and gives it in turn. Moreover, use of it must be planned rationally, within an information framework constructed by other means, including helicopters, so that it can be as effective as possible, making for the most favorable ratio between losses inflicted and losses suffered.

[Question] What is the radius of action of the A-129 in a transfer mission?

[Answer] In armed configuration, with 8 TOW missiles or with equivalent weight in rockets, the A-129 will be able to cover a distance of 450 km, retaining fuel for another 20 minutes of flight. With supplementary tanks in place of the weaponry, the distance rises to 1,000 km.

Logistics

[Question] What are the general logistics criteria postulated for development of the A-129?

[Answer] To achieve maximum technical reliability, ease of maintenance, automation of controls, low frequency of inspections, possibility of maintenance under field conditions, without special tools or with minimal need of them, and possibility of quick replacement of mechanical components and operational equipment.

The A-129 will be a machine that is easy to use and to maintain at the operational-unit level. Repair of individual components will be assigned to higher levels, where adequate tools and personnel with higher technical qualifications will be available.

[Question] In conclusion, then, can we say that the A-129 will be a strong and effective combat unit, that it will contribute significantly to increasing our Army's operational effectiveness?

[Answer] Certainly.

(Interview conducted by editorial staff of RIVISTA MILITARE.)

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COUNTRY SECTION FRANCE

MARCHAIS' ATTACKS ON PSF SEEN BENEFITING GISCARD

Paris PARIS MATCH in French 19 Oct 79 pp 64-65, 78

[Article by Michel Gonod: "How Marchais Is Making Giscard's Bed for Him"]

[Text] "The political reality of the Communist Party is in the last analysis that it is not good for anything." That was in May 1978. Michel Rocard, analyzing the causes of the defeat of the left in the legislative elections, had gone to the limits of his reasoning. He said out loud what most of the Socialists were thinking. Nothing has changed since then. Relations between the PCF and the PSF [French Socialist Party] have got even worse. By bludgeoning the Socialists, and especially their leader, the Communists are objectively playing the majority's game. Each new epithet that the PCF hurls at Mitterand gives hundreds of votes to Giscard for his reelection in 1981. Marchais is Giscard's best election worker; it is a funny situation. It does not seem to bother either the secretary general or the Communist Party leadership as a whole.

A Very Well-Tuned Image

Georges Marchais is at his zenith. We won't go into his physical condition, which seems excellent. He is getting heavier, as the television close-ups pitilessly reveal; but after all, the secretary general is approaching 60. His image is in perfect tune: velvet eyes, carnivorous smile, indignation bristling on the surface, derision taking the place of argument. It is often said that he is liked in popular circles, while his telegenic success is said to be assured especially among the intellectuals and in the political class. He has created a style that owes nothing to the big schools and the upper-class neighborhoods. Marchais is the only one who says coolly, with the greatest seriousness, as he did again last Friday on FR 3, that the absence of unemployed in the Soviet Union is clear proof of the superiority of socialism over capitalism. But everyone knows that there are no unemployed in the USSR for the good reason that most jobs are held by two or three persons, which is of no importance since the notion of profitability does not exist.

In the Strasbourg Parliament, something has happened with the Marchais phenomenon. In this assembly where people from nine countries rub elbows, individual

stars are rare. Willy Brandt, Jacques Chirac or Enrico Berlinguer arouse very little curiosity. But in the September session, the first in which he took part, Georges Marchais was a popular attraction. His press conference drew hundreds of journalists. The English, the Italians, the Belgians, the Danish find him hilarious. Before a forest of microphones, facing a battery of cameras, Marchais was superb, splendid, speaking of the French as "my people." A British journalist confided that Marchais was a curiosity. "One wants to see a political animal such as we do not have at home," he explained to justify his eagerness. At Strasbourg again, a few days ago, in the horseshoe of the European Assembly, Enrico Berlinguer and Claude Estier were chatting during a session break. Georges Marchais passed by and stopped, shook his Italian counterpart's hand, but did not greet Mitterand's lieutenant, as if he did not see him. If the French had voted differently in 1978, Marchais and Estier would have been sitting in the same government. They were ready to govern France together. In the eyes of the Communists, the Socialists now exist only when they are to be maligned or deprecated in public opinion. The situation is such that Francois Mitterand is becoming touching in his role as Sisyphus pushing his Communist rock uphill. There is something pathetic in this spectacle of a man forced to exercise his talent in a minor register, that of sterile polemics. History is passing by, and Mitterand, standing by the side of the road, quibbles tirelessly in a debate lost before it started. As much as he urges his friends to carry on the left's fight "without turning back every 5 minutes," as he says, "to look at the havoc behind us," it is more and more difficult for him to get people to share his apparent serenity. Marchais is always there standing behind them. No statement is written in the PSF, no initiative is taken, without the PCF's reaction being considered beforehand. Knowingly or unknowingly, the Socialists are suffering the intellectual terrorism of the Communists. The PCF's machine has now been set in motion, and it will not stop before 1981.

A Desired Defeat

Georges Dayan, Mitterand's friend and confidant, recounted shortly before his death a conversation with Georges Gosnat, the treasurer of the PCF and one of the most influential members of the party's leadership. The two men knew one another well. Things were direct between them, without oratorical detours. The scene was a little after the 1978 legislative elctions. Dayan referred to the theatrical appearance on television of the members of the political bureau of the PCF, on the evening of the first round, the results of which doused the hopes of the left. It was a Moscow-type production, in the Politburo manner, designed to frighten the bourgeoisie. "You pulled out all the stops that evening!" said Dayan. "We were really going to take some trouble," replied Gosnat; and he added: "Understand clearly that the left will never win so long as the Socialists are ahead of the Communists."

It was all out. Gosnat did not deny that the defeat had been desired by the PCF, which contradicts everything that the Communist leaders have repeated tirelessly for 18 months--that it was the Socialists who deliberately sabotaged the left's chances and organized the rupture. The PCF has been living

on this lie for 2 years. It has built its new strategy on it: Marchais and his friends are constructing, speech by speech, the Communist theory that is to be the only truth to be considered. Everything contradicting it is rejected. The leadership sticks to public declarations only, which authorizes Marchais to use one of his preferred formulas: "I challenge you to find in my declarations or in my writings anything contradicting what I state."

Regarding the Communists' double language, the adventure that happened to Jean Lerede, 31, and Jean-Claude Blanchet, 33, is exemplary. They are Communists. They are cadres who for 6 years had been the business managers of the Diderot Book Club, one of the PCF's publishing companies. They were sacked by the PCF in 1978, along with 140 other employees. Their error? They wanted to introduce into a Communist enterprise notions considered as pernicious as efficiency, quality, and quite obviously, profitability.

The Bourgeois of the PCF

In an edifying book ("l'Entreprise des Patrons Rouges" [The Red Bosses' Enterprise], published by Fayard), they tell the story of their voyage in the Kafkaesque world of the PCF, where incompetence is pardoned, even rewarded, when it accompanied by total obedience to the party, which is the case with the 13,000 staff coming financially under the Central Committee.

Inside a Communist organization, they discovered what the facade conceals: that is, the existence of a red bourgeoisie living in luxury, thanks to lavish expense accounts; rejection of trade-union rights; and especially, that famous double standard. For example: the CGT campaigns on the theme "Let's Produce French," but the Diderot Book Club was printing in Belgium or Italy; Marchais declares that no layoff is inevitable, but 140 employees of a healthy enterprise of which he is the remote president-general manager are sent away because the party's political bureau decides to sacrifice them in order to make up the deficit caused by the management errors of the Communist publishing group. "The Ubuesque quality of the situations often predominates over cynicism, and the droll over the tragic," write Lerede and Blanchet, whose moral good health survived the trial. They did not accept lightheartedly the idea of becoming the party's "renegades." They are being made to pay dearly for having broken silence and washing dirty linen in public. The PCF's management has circulated rumors that Jean-Claude Blanchet absconded with the till. The figure of 100 million centimes has been whispered about, and Blanchet has seen certain of his friends turn away from him.

The CGT and the Simpletons

If Marchais and his entourage had not been so far away, this affair would never have been brought to the attention of the public at large. But after the duplicity and injustice, the two men have not accepted this campaign of slander. "It had to be said," they explain today, considering that what they experienced conforms "to the methods of intimidation practiced in the countries of the East." The Communist press, of course, has never referred to the

frustrations of these two comrades, even in a few lines, just as it has never referred to the dismantling of one of the PCF's most important companies. Of course, the CGT has not replied to the protests of these two simpletons. How, for that matter, could Georges Seguy have got himself out of this pickle? The dismissal of the 140 employees of Diderot publishing had been decided on by the management of the PCF, to which he belongs. Seguy-CGT could not ask for explanations from Seguy-PCF.

On a general level, Georges Seguy is a realist. "One is not going to wait for the parties of the left to get together and agree to ahcieve trade-union unity," he said to Edmond Maire on 17 September. And with Marchais, who does not approve of this common front with a man whom he publicly accuses of letting himself be seduced by the Elysee, Seguy has not minced his words: "A political party such as the PCF," he said, "can afford isolation, but not a trade union like the CGT." To make his point clearer, Seguy explained to Marchais that only 20 out of every 100 members of the CGT are enrolled in the PCF, the others being sympathizers, socialists, left-wing Christians, and various unlabeled miscontents. The trade-union leader knows that his troops will not go along with an operation remote-controlled by the PCF. Marchais gave in because he has no other solution. The CGT represents the biggest battalion among all his troops.

In the last analysis, then, what is making Georges Marchais take this road that is a dead-end for the left? The newspapers explain daily that his strategy is simple: he intends to make the PCF the No 1 opposition party again, and he has high hopes of outdoing the Socialist candidate in the first round of the 1981 presidential elections. Is that all? Certainly not. The explanation is too brief. Certain observers, Socialists in particular, are not afraid to go much farther than that. Let us listen to them. Geopolitics holds first place in the PCF's analysis. Its leadership has certainly planned its present behavior a long time ago. The French Communists remain under Soviet domination on the level of evaluation of the international situation. But the climate is rather worsening between East and West, while Leonid Brezhnev's succession raises some serious questions.

A Socialist deputy even goes so far as to think that the PCF knows or feels that a third world war is in the offing, and that in this perspective, it is anxious to remain free of all national commitment, homogenous and solid. The arrows which the PCF lets fly against the USSR from time to time are only a diversion. The French Communists have never disapproved a single point of Moscow's foreign policy. In this regard, the PCF's subordination to the Soviets is complete.

In Vitry last December, before 400 Communist intellectuals, Marchais made a point of recalling this fundamental datum: "Wanting deliberately to isolate our combat from that of other forces throughout the world struggling against capitalism and for socialism would be profoundly mistaken. Whether one likes it or not, the class struggle is worldwide. One of the essential foundations

of our own strategy lies in the world reality, in the modification that has occurred in the relationship of forces in favor of socialism, of independence, of peace. To forget this would be suicidal." Without being a decipherer of Communist hieroglyphics, one finds here the answer to all the questions at hand. Behind successive smokescreens--Eurocommunism, socialism under France's colors, etc--Marchais remains faithful to communist orthodoxy, with all due respect to certain party dinosaurs, nostalgic for Stalin, such as Jeannette Thorez-Vermeersch, Maurice Thorez's widow, who in a book ("Vers Quels Lendemains? De l'Internationalisme a l'Euro-Communisme" [Towards What Tomorrows? From Internationalism to Eurocommunism], published by Hachette) accuses him almost of being a revisionist. Marchais fulfills well his role as advance infantryman in the world struggle against capitalism orchestrated by the USSR.

As Mitterand recently said at a meeting of the national secretariat of the PSF: "When the crisis worsens, the Communist demagogy pays more and more." In Moscow's view, the Western countries are in headlong decadence, and the energy crisis should finish them off. They will then fall like ripe fruits, without revolution, without blood-letting. This is what Georges Marchais was thinking of the other day when, at the end of a radio broadcast, he said to the journalists, once the microphones were turned off: "Capitalism is dead."

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COUNTRY SECTION FRANCE

SCENARIO FOR WORLD WAR III IN EUROPE REPLAYED

Paris PARIS MATCH in French 5 Oct 79 pp 3-12

[Article by Jean Larteguy: "Can the Russians Reach Paris in 3 Days?"]

[Text] Why 1984? Because of Orwell's famous novel? or Amalrik's pamphlet which prophesied the end of the Soviet Union in that year? Or the oracles of Nostradamus? Or the publication of sensationalist books on the Third World War? Be all that as it may, this date is spoken of the world over as the zenith of the threat of a world war. This psychosis is also being fed by the enormous figures on excess Russian weaponry and the recent heated debates on our nuclear strike force. Are those prophets to be believed who, should war break out in the West, see the Russians reaching the Rhine in two days and Paris in three? Jean Larteguy examines the main points of the question. He does not leave us altogether reassured.

Suddenly the specter of a third world war looms on the horizon. Is this a psychosis or a logical reflex to the "new state of the world?" Suffice it to say that the man in the street can, with good reason, be worried by the avalanche of alarmist statements and the proliferation of apocalyptic books. Is 30 years of peace the maximum tolerable?

Kissinger, the man of peace in Vietnam (today we have seen the price-tag), during a seminar of experts in the Egmont Chateau, in Belgium, had just exploded this bomb: "I will say it here although I would most likely not have said it when I was in the administration, our European allies must not keep on asking us to multiply strategic assurances which we cannot sincerely give them or, even if we give them sincerely, we could not carry out, because if we were to carry them out, we would risk the destruction of civilization."

General Haig, former NATO commander, and candidate for president in the United States, reacted violently to this "pessimistic" speech. "The

renunciation of our nuclear guarantee for Europe is unthinkable," he said. "No U.S. president would survive it."

But could Europe, one wonders, survive during the time it takes to change presidents in the United States? One began feverishly counting nuclear rockets, large and small launchers, "theatre" weapons, which, alas, have nothing of papier mache props about them, because it is question of intermediate range missiles, with three nuclear warheads and great accuracy, like the Soviet SS 20, or like U.S. Pershing missiles. Calculations were sifted: 47 NATO divisions against 127 Warsaw Pact divisions; 7,000 tanks against 20,000 tanks; 4,300 airplanes against 12,350 airplanes.

Suddenly a lot of noise was being made about the presence of a 3,000-made Soviet brigade which had been based in Cuba for some time. The Far East has again been giving cause for concern, this time as a matter which affects us directly. The Vietnamese, who had received an imposing array of weapons and many "active advisers" from the Russians, were preparing to launch a large scale offensive in order to liquidate Cambodian resistance, intimidate Thailand and incite the Thais to be more prudent in their relations with China and the USA. The Chinese were massing their divisions on the North Vietnamese borders, while U.S. Vice President Mondale, who was visiting Peking, said that his country would not remain indifferent to any initiatives of another nation--meaning the USSR--which would attempt to weaken or isolate China.

Everywhere the marching of soldiers and the rumbling of tanks was heard, while in France a tempest in a teapot exploded. Alexander Sanguinetti and General Buis, neither of which held any official position, for having dared to contemplate a joint Franco-German nuclear force, found all of the "authentic defenders of peace," from George Marchais to the orthodox Gallists, up in arms against them.

This same month of September a certain number of fictional or analytical works have been published, all dealing with the future world war and how it might be fought. The Russians are uniformly cast as the aggressors.

Izvestia has violently attacked the authors of these works and the newspapers that review them, accusing them of "supporting the myth of a Soviet military threat, partaking of military hysteria and fomenting an arms race."

The PCF, as a faithful second, is barking in its turn. At the risk of incurring IZVESTIA's thunderbolts we have attempted, by reading these three fictional works, to visualize what form this war which threatens us might take.

The first work, published before the summer vacation, is French: "THE SIXTH COLUMN. SHOULD THE RUSSIANS ATTACK. A FICTION-LESS NOVEL." (Stock) It is signed Francois, which is a pseudonym behind which Lt Col Guy Doly,

a graduate of the War College and a tank specialist is hiding. Doly has just sinned again with EUROSHIMA (Media Publishers), a technical essay which asks the question: "Is a European defense possible?"

The second work, "THE THIRD WORLD WAR," is by the English General Hackett, who occupied high military posts as commander of the English Rhine Army and commander in chief of the NATO Northern Armies. It is a collective work to which admirals of the Royal Navy and RAF air marshals as well as different armor and artillery specialists have contributed: This fact does not pass unnoticed.

At the Elysee Palace, no secret is made of the admiration felt for this work of fiction, to be sure, but one which sticks close to reality, whose data are accurate, and which has well deserved the success it has had in England, the United States, and Germany. It has just been published in France, by Belfond Publishers, in a revised version, since certain events such as those in Iran have made sport of the brilliant general's sagacity.

Contrary to the "THIRD WORLD WAR," the "SIXTH COLUMN" is reputed not to have been liked in high circles. All periodicals published by the National Defense have been prohibited not only from reviewing it but, moreover, from accepting advertising for it.

The third work, 1984-1985 (Laffont), runs no risk of attracting Elysee Palace thunder. It is by Anthony Burgess, the author of "CLOCKWORK ORANGE." Its theme is a war psychosis which brings in its wake the same disorders, the same destruction as a real conflict. The freedom of man and democratic institutions cannot long survive a state of war without war. The book is dedicated to George Orwell.

These three works have one thing in common: war is predicted for 1984-1985. The dissident Soviet physicist Sakharov chooses the same dates, as does another dissident, Amalrik, and Raymond Aron. The war will break out, they say, when Soviet strength will be at its zenith. The professor of a large U.S. university, Rummel, has just published a scholarly study in which, basing his opinion on 682 analyses, he assures that starting in 1980 a threat of war will hang over the world the likes of which were unknown even during the cold war. The "SIXTH COLUMN" is savagely pessimistic, the English general's book is optimistic. As for the third work, that of Burgess, which is the only one that does not believe that nuclear weapons will be used, he informs us that, whether winner or loser, no one will come through it unscathed. The evil, he says, is not in war but in man himself, a sort of animal with programmed reflexes, who, in order to escape strangulation by over-population, gains access to a breath of air through violence... and war.

Here is the initial hypothesis of "Colonel" Francois, in "THE SIXTH COLUMN": in April, 198-, the Soviet Union and China sign a secret political and military pact dividing the world into spheres of influence and pledging

to support each other militarily in order to give the death blow to moribund capitalism. After the death of Tito, Yugoslavia has been invaded without drawing any response. The USSR has become the world's first military power and the United States, who have been reassured by an arms limitation agreement, have left only two divisions stationed in Europe. In France, moderates (and this can only designate Giscard d'Estaing) have won the election. But faced with violence, strikes and mutiny organized by the PCF and the CGT, a government of national salvation has been constituted in which four socialist ministers preside.

Tension mounts: there are repeated border incidents between the two Germanies, a French nuclear submarine disappears off Norway, a tanker is boarded in the Red Sea. Troop concentrations are reported in the East; covering units are placed on alert in the West, but the alert costs too much and weariness sets in.

Saturday 24 May, in the midst of Ascension Day weekend, at 9 p.m., in an underground radar station somewhere near Metz, a captain sees the "trails" of airplanes coming from the East on his scope. Several seconds later, the first bombs fall on Nuremburg: the third world war has begun. Brest is in flames, the fleet having been sabotaged by commandos of underwater swimmers. Half of the planes on the ground have been damaged or destroyed. On the other hand, any attack against nuclear units, Mirage IV bases or plateau of Albion missile sites, which would trigger an automatic response, has been avoided. More sabotage has been carried out in all of France by mixed groups of planted KGB agents and French collaborators recruited among secret partisans of the PCF. The Towers of the Defense building are in flames, radio and television stations have been burned out. The Book Syndicate prohibits the publication of newspapers. Expressways, obstructed by hundreds of thousands of refugees mixed in with vacationeers, are blocked, preventing any forward movement of units on their way to the front. The Russian ambassador tells the French president that what is underway is a "preventive action against a force of aggression which might be constituted in Europe and which would threaten world peace. The Warsaw Pact forces, which have decided not to be the first to use nuclear weapons, ask France to open its frontiers and collaborate in the unification of a free and united socialist Europe." The president of the republic haughtily rejects this ultimatum. The ambassador of the United States, on being summoned, indicates that his country will not enter the war: It no longer has the means to match the Russian escalation. The drama will be played out in 3 days in the PCF underground, beneath the Elysee Palace gardens, nicknamed "the vat." Not only Federal Germany but all Europe is staked out. The Soviets strive to reach their objectives without having France set in motion its deterrent. To prevent her from doing so is the role which has befallen this Sixth Column. The French deterrent force could in a pinch destroy three or four large cities of 6 million inhabitants but they realize that the Soviet reaction would be awesome: the "vitrification" of French soil and the disappearance of its 55 million inhabitants.

German, Belgian, Dutch, French and the two American divisions, which have been bombed by toxic gas, are cut to shreds. Aix-la-Chapelle is razed by an atomic explosion. After this warning shot, the PCF has an easy time organizing in all of France vast demonstrations "against nuclear suicide and the technocrats of collective death." The U.S. Embassy is in flames: leftists and ecologists take to the streets; the army of nuclear refusal officered by the communists becomes master of Paris. The Russians are at Amiens. The tactical force with its Pluto missiles is of no use. Will the strategical force, still intact, be used?

While the president hesitates, while his ministers are divided on the decision to be made, a collective, one million demonstrators strong, demands to be admitted to the Elysee Palace. When Lyons falls, the president capitulates while the interior minister, a socialist, commits suicide. The leftists and Renault laborers, who are not in agreement with the "collaboro" line of the party, are massacred by Soviet tanks which have surrounded Paris. The French Peoples Republic is declared. The gendarmerie rallies to the new government.

A great victory parade follows. To a great array of red flags, Soviet troops march up the Champs-Elysees, followed by the popular "masses" preceded by members of the PCF Central Committee. Certain members are missing. They have already been eliminated or are in flight. The only newspapers to come out are HUMANITY and LE MONDE.

In the evening, there is dancing in the streets to the sound of accordions and balalaikas while small scattered groups and some survivors of the battles in Germany or the East go underground.

The next morning, long rows of deportees are sent in covered trucks to goulags in the Massif Central. Order reigns in Paris where smoke from the last smouldering fires mounts skywards.

The author's conclusion: "a potential aggressor can conceive a strategy of terror capable of bringing about a collapse before any significant engagement of forces, thus before reaching the fatal threshold of an unthinkable nuclear exchange."

It is understandable that this work was badly received at the Elysee Palace. It cast doubt upon the credibility of the president of the republic who had already been criticized in certain military and political circles as being, like glass, brilliant but fragile. It is reported to have been after the publication of this book that Giscard d'Estaing decided upon a nuclear alert in which he personally took part. He profited from the occasion to make it known that he would not hesitate, in case of the invasion of the national territory, and irrespective of the pressures he was being submitted to, to set in motion the deterrence.

If the polemical tone of the work and its settling of accounts detract from its credibility, the postulate of a surprise attack and a collapse

from within remains envisageable. It is difficult however to imagine China signing a secret pact with the USSR. If the Russians were victorious in the West they would surely turn against China. Italy welcomes the occupying troops with flowers: no surprise here! Syria seals Israel's fate, Vietnamese Indochina seizes Singapore, Bulgarians and Romanians enter Greece. All of this is plausible. There is one serious omission: no mention is made of the role Great Britain would play. It only takes part, along with the Spanish, in a brief engagement near Gibraltar.

According to General Hackett (in "THE THIRD WORLD WAR"), no one wants a war. It will break out, however, as the result of a certain number of errors of judgment and an element of chance, in which the mass media will play the role of ancient destiny. England, which was absent in the preceding work, will be at the center of the conflict. France, although present at the side of her allies, plays only a secondary role because she has a Popular Front government made up mostly of socialists. Great Britain has gotten a firm hold on herself after labor government meanderings, and, contrary to France, has become aware of the danger which threatens world peace (this book was written before the English elections).

The first accident happens. During the U.S. elections in November, 1984, a televised debate on Poland pits the democratic candidate against his republican challenger, Thompson. In order to gain support from voters of Polish origin, Thompson speaks rather harshly about Russia. After the debate, his secretary reproaches him with having gone too far. Thompson explodes: "Art, all the same, you do not expect me to say that I want to give it to be understood that in the event of an uprising on the part of the courageous Polish people against their Russian oppressors, a Thompson administration will leave them to shift for themselves?"

A microphone was left on by mistake and the entire world hears the candidate's answer, so that Thompson's election was triumphantly welcomed in Poland. Manifestations of joy turn into a riot. The former Polish flag flies on public buildings which have been taken by storm. The Polish Government is obliged to negotiate, the Soviets feeling for the time being that it would be better not to renew their "Prague exploit" by throwing in their armored divisions. But in order to prevent the Polish germ from infecting their other satellites, they decide to land a blow against the new president, forcing him into an ignominious retreat which will demonstrate his incapacity to give effective aid to the USSR's satellites. This move has become all the more urgent in that the republics of central Asia have begun to stir. They have been incited by China, which has formed with Japan a sort of "Asiatic sphere of coprosperity."

The theatres chosen for the Soviet counterattack are the Middle East and South Africa. Egypt again changes sides, goes over to the Russians and proclaims the United Arab Republic (Nasir's UAR), annexes Iraq, Kuwait, Saudi Arabia, and takes control of all the important oil deposits with the exception of Iran. Israel receives guarantees which assure her neutrality

and does not stir. Egypt, supported by the USSR, declares the Red Sea a war zone. A Soviet submarine sinks an Iranian troop transport and a U.S. spy ship. The West, dependent on Middle Eastern oil, implores the new U.S. president not to react too violently to this provocation. The United States backs down. Given this proof of weakness, the Russians blow up an English North Sea oil rig in order to encourage Western Europe to stay out of the quarrels which are tearing the Orient apart.

In South Africa, Russians, Jamaicans and Cubans, officering the various black liberation movements, attack the white states. The Americans, although the whites are not respectable allies, because of their racism, can with difficulty leave them to their fate.

We are on the brink of war. Having taken three steps forward, the Russians take one backwards. They propose a partition of the gulf, leaving the emirates and Iran to the West. A new summit meeting is decided upon. The SALT agreements are reactivated: detente resurfaces! But the U.S. president Thompson, as certain riots which break out in East Berlin show, has not sufficiently lost face. A further step has to be taken. The Russians, called in by a pro-Soviet Defense Committee of Yugoslavian Integrity, invade a Yugoslavia which has fallen prey to all manner of factional strife after Tito's death. Slovenia calls for help. NATO, caught by surprise, in order to demonstrate both its severe disapproval of the Russians and its sympathy for the Slovenes, while at the same time not wishing to take too many risks in this hornets' nest, lands a symbolic detachment of marines on the Dalmatian coast. A small Soviet unit which does not know they are there runs into them. An engagement follows during the course of which three Russian tanks are destroyed. In order not to inflame the situation and upon being ordered to do so, the Soviets withdraw and the Americans do likewise. Both sides are firmly decided to forget the incident. An Italian journalist who had made friends with the marines who were stationed near him accompanied them by sheer chance. He manages to film the combat with a small camera. Sly as only a camera buff can be, he hides his film from all searches. Relayed by satellite, the film is shown on screens the world over. No one can any longer doubt that the Americans and Russians are already at grips and, on seeing the Soviet tanks burning and the Red Army withdraw, no one can doubt that the GI's have scored the first big victory of the war. The USSR, in order to reestablish its prestige and the myth of the invincibility of its army, feels obliged to present the minor engagement of Kostanjevica as a massive and premieditated attack on the part of the Americans and their allies.

Sunday, 5 August 1985, at dawn, a British captain of the 2d armored and cavalry regiment, reconnoitering near the border of the two Germanies, spots a large formation of Soviet tanks debouch from the East. The engagement is quickly transformed into a gigantic tank and air battle. The allies were not taken by surprise: they had reenforced their defenses. But they have to fight five against one and their lines are soon broken. Russian paratroops and teams of saboteurs have entered into action in all of Federal Germany.

At the same time that they unleash their aggression, the Russians, in order to reassure the world, give notice that they only want to operate Federal Germany for removal of its Nazi cancer. They appeal to the conscience of Great Britain, they promise France to respect her territorial integrity and ask the Italian comrades not to offer any resistance to the Soviet troops who will be obliged to invade their territory. They also promise not to be the first to use nuclear weapons.

The Soviets had only wanted to invade the Federal Republic quickly, ask for a truce and discuss an agreement with the United States, while hanging on to a part of their conquests. In spite of early defeats of the NATO armies, in spite of her recent shift left, France decides to side with her traditional allies. But the immediate collapse of Italy puts Greece and Turkey in a poor position.

Results of this first day of combat: Bremen has been taken by an airborne communist division, Hamburg is declared an open city, Denmark has been invaded. On the other hand, the sabotage operations have succeeded in only 25 percent of their attempts and the Soviets have not been able to attain all of their objectives. Their weaknesses begin to appear: poor air to ground liaison, too great a rigidity on the part of the high command; the destructive effects of missiles against their armor. It is quickly realized that the outcome of the war will depend on the quality of the adversaries' electronic equipment. But electronics is an essential field where the Soviets are largely outclassed by the allies.

The combats continue but the Warsaw Pact troops lose their drive and do not manage to carry off a definitive victory on the central front. The use of tactical nuclear weapons is avoided, however, for fear of escalation.

The seas and oceans have become new battlefields. The Soviet fleet has units in all of the world's seas including 60 nuclear attack submarines. Its principal goal has been to destroy all supply convoys and isolate Europe from the United States. The battle of the Atlantic begins by a submarine duel, continues by aeronaval combats, amphibious operatisns, and attacks against the oil pipelines and wells of the North Sea. Convoys of troops and equipment are annihilated, others get through, while a veritable airlift between America and Europe has been put into place. Losses are very heavy on both sides but the Soviets, in spite of their numerical superiority, do not manage to snatch victory. "The sea quickly became threatening," General Hackett writes, "and the Bear drowned in it."

After 8 days of aerial combat, the scales have tipped slightly in favor of the allies for three reasons: electronic superiority, superior quality of combat aircraft, better troop training. If it has not tasted defeat, and although it still holds numeric superiority and keeps the initiative, the Red Army has shown this time that it is not invincible.

The United States has established in South Africa a solid base which commands the South Atlantic and the Indian Ocean. They have no contact with the South Africans and let them settle their problems themselves with the black liberation armies. With the active complicity of China and Japan which arm and supply them, the South Africans come off quite well. Since their very survival is at stake, they show no quarter. The most atrocious free-for-all breaks out among the black assailants who fall back into their tribal rivalries. The Soviets, Cubans and Jamaicans who officer them, nauseated by excesses they cannot repress, surrender in a body to the Americans of the base so as not to have to deal with the Afrikanners.

That is how it came about that a plain captain of the United States Army had to accept the surrender of "two Soviet generals, a half hectare of officers of various ranks and about three hectares of soldiers and noncommissioned officers."

In the Middle East, the Americans only have to give a slight nudge to the United Arab Republic for it to fly to pieces. Saudi Arabia revolts, Kuwait changes sides, the new Nasir is assassinated and the house of cards collpases.

In the final days of the month of August, 1985, the USSR has completely lost control of the combats going on in these two sectors, Africa and the Middle East. Confronted with this deterioration which threatens to spread to their entire zone of influence, and to penetrate their European and Asian glacis: not having been able to obtain a decision on the central front, and in order to force America to accept a new partition of the world and give proof of their determination, the Soviet hawks decide to set a nuclear example. They advise Washington by the hot line which is still working that they will limit their strike. The city of Birmingham is chosen as target. On being queried as to the reasons for his choice, General Hackett replied: "I have never been able to stand its ugliness. I profited from the occasion to settle an old account with Birmingham."

And settle it he does. Birmingham is completely destroyed: there are 300,000 dead, 250,000 seriously wounded and 500,000 slightly wounded. A scene from hell which gives a glimpse of what the end of the world could be like if the escalation continued. Contrary to what the Russians had hoped (that the Americans, fearing for their cities, would let things stand there) reprisal is instantaneous. Minsk is wiped off the map by two Polaris missiles, one launched by a British, the other by an American submarine.

Alarmed by the allies' determination and by the madness of the Moscow leaders, the Soviet Socialist Republic of Kazakhstan secedes and proclaims its neutrality. The new state is immediately recognized by China which offers it its aid. The other Asian republics follow suit. The Red Army cannot crush all of these rebellions and face the Chinese at the same time. The Polish army, in secret contact with popular resistance, changes sides. Events move fast. A Ukranian, an important member of the KGB, relying on a nationalist resistance network, and, in the Kremlin, on a clique of doves, attempts a coup d'etat and brings it off. He gets rid of his chief, appears

in his stead at the meeting of the Politburo, guns down the Brezhnev of the day while the other conspirators arrest the remaining members of the political machine. The nuclear forces are neutralized before total war breaks out. The new government makes contact with the Americans, obtains a cease-fire and negotiations open at Helsinki.

The USSR will proclaim its own dissolution, each republic will become independent and the Russians will be sent home packing. It is an "exploded empire."

This happy ending in the form of a Western or detective story is scarcely believable although it recalls some bloody scenes which followed on Stalin's death. In the first version of the book, Iran played the role of a solid peon of the West. Its disintegration as a great military power was not planned on. But, in the French edition, General Hackett has set things straight.

All the rest of Hackett's hypothesis remains plausible, provided that the Russian "electronic" weakness be as real as he claims it is.

We will let Anthony Burgess speak for himself on the coming war in his recent book 1984-1985.

"Since 1945 we have had some 30-odd years of limited warfare, carried out for various and often ridiculous reasons--territorial, anti-colonial, ideological wars, you name it. If history really conforms to a model of regular alternation, it will be impossible for us to continue enjoying an indefinite period of limited warfare. The lid will have to blow off on a global scale, some day or other and once again. Just think of it: 30 years, this is the longest period of time our modern world has known free from world war. Perhaps our economic problems--for example, the inexplicable coupling of recession and inflation we are experiencing--are due to the fact that we are incapable of administering a peacetime economy. As for wartime economy, that is another story: we have precedents. I dreamed up a Malthusian world war waged with conventional weapons--a war which could only break out when the world's planners realized that the overall food resources could no longer suffice to feed the world's population. Instead of famine and riots, we would have a make-believe nationalistic war, whose real purpose would be to exterminate millions, indeed billions of human beings in the world. This sort of war could have the merit of being just and expedient. But, before it comes about the world would have to await the year 3,000! As for the new world war which lies cuddled in the warmth of time's womb, like a fetus doing well and full of health, who can say who, what will touch it off and what degree its devastation will attain? We have already played make-believe with this war in films and novels, a sign that a part of us is desperately desiring it. How absurd to pretend, as authors and film-makers do, that their frightening visions have been conceived as so many warnings to humanity. Chalk up a zero for warnings! It is pure subconscious desire: war, someone said, is a schematic outline of culture--

a legitimate means of propagating culture, even if the culture transmitted in that name is generally not what one had expected... On a completely different level, the Americanization of Japan and Germany could only be carried out by means of defeating these two countries, and limiting their industrial production, after the war, to purely peaceful consumer goods. As for Soviet Russia, she has spread to Eastern Europe a Marxist control bearing her own trademark. War is the quickest way to spread culture, just as eating meat is the quickest way to absorb protein. Formerly, it was possible to look at war as an economic mode of exogamy on a grand scale--spread your seed in order to produce new hybrids full of life, avoid the anemic incest of sempiternal endogamy, the boring, insipid fruit of peace. The greatest representation of war depicts the Rape of the Sabine Women. War makes use of international politics as a simple pretext for indulging a basic human need, a need one is afraid to own up to, because one does not like to admit that there can be a relationship between the exaltation of life and the fact of going to meet death."

The Third World War then?

"...It can break out anywhere. It will be passed off as an ideological war. It will use conventional weapons. It will end by a truce after having killed a million men and women, but large cities will remain intact. Human flesh keeps on depreciating in value. Large cities house manufactured products of value, which are expensive and which it would be better not to bomb. For example, computers.

Remember how H. G. Wells had the second world war start: in the middle of the thirties, he wrote a book entitled "THE SHAPE OF THINGS TO COME," largely absurd and rendered more so by circumstances. But HIS war began in 1940 in the Danzig Corridor, which was astonishingly precise. A Polish Jew bites into a filbert, a piece of which gets stuck in a decayed molar. The Jew tries to get the piece out with his finger. A young Nazi who is passing by thinks this grimace is an insult to his uniform. He draws his pistol and fires, killing the Jew. The war has started! In the hazy nature of the causes of conflict, in the banal pettiness of the incident which serves as a detonator, we have proof that we desire war for itself."

General Gallois, director of Dassault Aviation, the author of a certain number of works dealing with the problems of the atom and defense, including "STRATEGY IN THE NUCLEAR AGE," on being queried as to the possibilities of a future war and how it would be fought, answered us by partially refuting the "hypotheses" of General Hackett, whose book he had not read, and Burgess' conclusions according to which there would not be a nuclear confrontation.

[General Gallois] In Europe the situation is entirely different from African, Asiatic, or Middle Eastern operations, where the Russians are not directly involved. In European operations they WOULD be involved, and this is a basic difference. In operations where they are not directly involved, they can admit defeat. They lost out in Egypt, for instance. They lost out in the Sudan. They won in Angola. At one and the same time they lost out

in Somalia and won in Ethiopia... All of these operations are operations in which chance plays a role. You win or lose because you are not directly involved, at least not openly so. But it is obvious that in Europe no military operation could be undertaken by the Warsaw Pact forces acting alone, since they are made up to the tune of 60 percent by Soviet troops. I can not imagine the Russians, with the prudent policies they have been carrying out for years, getting involved in operations in Europe without winning. It would be impossible, given numerous resistances they would not have foreseen, for them to turn around and apologize. If ever the Russians get involved in Europe, which I doubt, since they have other means of pressure than direct confrontation, it would not be with the idea of losing. Consequently, when I read military journals, when I hear certain reporters and historians make a comparison between a future conflict and the Yom Kippur War, or the last war in Europe, with tens of thousands of tanks surging forward, I have to smile. The reasoning of these people is absurd.

[J. Larteguy] Therefore a European war cannot use conventional weapons. Would it quickly turn nuclear?

[General Gallois] It would not quickly turn nuclear, it would start nuclear. There is however, one factor which is always forgotten and which, in my opinion, is of prime importance with respect to Europe. That is that the initiative to make war does not rest with the Western democracies. This is excluded. You will not see a Western democracy raise its little finger to make war itself on Russia, nor even all of the Western democracies, led by Mr Carter. If there is a hypothetical conflict, let us be reasonable: one can entertain this hypothesis only if the Warsaw Pact forces launch an attack. In order to succeed, the principal trump of the attacker is surprise, which is why all of the military scenarios of a conventional war with tanks charging forward are so much stupidity. You cannot mobilize 20,000 or even 15,000 tanks without being discovered, without intelligence agents getting the jump on you.

Consequently, a conventional attack in the Hitlerian mode is not possible. The side which would undertake it would lose the effect of surprise. Consequently, there would be a very brutal, a very quick strike which would be carried out by several planes, by the penetration of several aircraft. Why several aircraft? Because if a large number were mobilized that would be discovered also. You can write your own scenario: one Saturday at midnight a couple of low flying aircraft can strike, skimming the ground, and it would be very difficult to detect them.

[J. Larteguy] Is there any parry possible?

[General Gallois] The military system that NATO--I am not speaking of France--should have therefore is a system so conceived that it should prevent a surprise enemy attack on military objectives. That system may be obtained by emphasizing mobility, by putting material underground, by dispersion. That is to say that NATO should not have the same military

system as the Warsaw Pact countries, since these countries are reputed to have the initiative while the Western democracies are reputed to be the object of attack. That is to say that during negotiations on disarmament the various governments are supposed to conduct, it appears absurd to negotiate starting from notions of parity, to say, you have so many tanks, I have so many tanks, you have so many pieces of artillery, I have so many pieces of artillery, you have so many divisions, I have so many divisions, you have so many aircraft, I have so many aircraft.

That is absurd. It is idiotic to negotiate disarmament on the basis of equality, on a qualitative and numeric basis. Try and make people who pass laws and who remember what they learned sitting in school 30 or 40 years ago understand that! These ideas are perhaps unorthodox, but I pass them on to you nonetheless because they are logical. If we had 2 cents' worth of common sense, the military system should above all protect from destruction the weapons we have, so that the adversary would know that he could not destroy them and that, in the event of an attack, he would have to sustain the effects of reprisals in return.

[J. Larteguy] The Backfire is therefore the Soviet nuclear bomber built for a surprise attack?

[General Gallois] The Backfire is a plane the Soviets have perfected in order to force the United States to spend money on conventional air defense. You probably know that the Americans have only 132 strategic bombers, the famous B52's, still in service, which made it possible for them to lower their guard in matters of conventional air defense. So the Russians said to themselves: "With the Backfire we kill two birds with one stone." On the one hand, all of Europe is threatened, on the other, with in-flight refueling, a round trip can be made on the same sortie, which forces the Americans to reactivate their electro-magnetic line of defense in the Northern Tier. And that will cost them a lot of money. You find that same idea everywhere. For example, when the Americans deploy their famous Cruise missiles, that will force the Soviets to deploy a hundred AWACK-type radar planes, and set up hundreds of anti-aircraft batteries and, consequently, spend, according to the Russians' own estimates, to defend their immense territory, some $50 billion, while the Cruise missile program will have cost the United States only $10 billion. We win, the Americans tell themselves. This little game has been going on at all levels for 20 years. The same for the Backfire, on the Soviet side.

[J. Larteguy] It is a sort of poker game?

[General Gallois] You draw your neighbor into multiplying, as much as possible, expenditures which are going to ruin his economy and stir up social dissatisfaction in his country which you can benefit from politically.

[J. Larteguy] Is that why the Americans are trying to have the BACKFIRE covered by the SALT agreements?

[General Gallois] The Russians have agreed to build only several planes a month. This is a joke, because it is not verifiable by satellite. First of all, no modern weapon is verifiable by satellite. You must have no illusions: it is not be means of a satellite that you will know whether, under a concrete cupola, there is one ballistic warhead or ten. The same goes for the cupola of a submarine: are 14 bomb loads or a single one stored? A simple apartment room is enough to put in place ten cruise missiles. This is unverifiable. Nor whether a Backfire bomber has a refueling perch or not. If it does not have one, it is a Eurostrategic plane. If it does have one, it is an intercontinental one... It is not a satellite which is going to tell you whether it has one or not. Consequently, if the great powers have accepted the principle of satellite verification, that is because it does not bother them.

In an article in INTERNATIONAL POLITICS, General Gallois, taking into account the new intermediate range missiles such as the Soviet SS 20, which are capable of hitting enemy nuclear installations with extraordinary accuracy, imagined another form of nuclear war, on the whole rather reassuring, in which rockets fight it out among themselves above our heads.

"And there is our atomic war," he writes, "--that one, at least--which has become thinkable, even tempting, if only because it would take the most intelligent form any conflict has ever taken. There would be no victims on the aggressor's side; few, very few victims even in the opposite camp; material goods would remain intact, immediately usable by the who who would seize the initiative to use the potential for selective destruction from afar which he possesses."

But, as General Bigeard would say, in these plots overly well constructed by intellectuals, there are always some hitches. "And, in the end, the foot soldier always lands on his ass." When the deputy of Toul, president of the National Defense Commission, was asked if we should expect a war about 1984, he roared with laughter: "But we are already at war! The Third World War has begun. It does not resemble the last one, that is all. Look at what is happening in Africa, local armies officered by Cubans and East Germans, with weapons and advice being furnished by the Russians, have launched an assault against the last moderate regimes, against the last white citadels. Does that not amount to waging war, laying hands on all the raw material riches of a continent from which Europe supplies itself?

In the Middle East, what else is going on, if not a war? There is still internecine strife in Lebanon, and Khomeyni is mobilizing his army against the Kurds who have the audacity to demand autonomy. The regimes in Iraq and Syria are coming unglued. Saudi Arabia and the emirates, our principal sources of oil supplies, are being threatened in their turn. And, in the Far East, China is fighting Vietnam, the Russians' privileged ally, which has, thanks to Russian help, been able to take over Laos and Cambodia, and which has an eye on northern Thailand. I have just come back from China. What an exciting trip! I saw the big army brass while there: every one

of them spoke to me about the Soviet menace and affirmed that some day, sooner or later, the Russians would be led to attack China, because China blocks their expansion in Southeast Asia. But they will lose, they said, just as the Germans did in Russia, in spite of their tremendous weaponry. China can field 30 million well-trained and seasoned troops, fighting to defend their homeland against a foreign, against a white, invader.

What struck me in China was, in the morning, that whole mass of people who did their exercising in the street, on the sidewalk, in front of factories. That is not for figs. In France, we have jogging, which we veterans of the Old Guard used to call the double march and which my wife and I always did. Is that enough preparation for war, to have several young high civil servants, several old inspectors of Finance run around the Luxemburg garden?

France has nonetheless made some progress. Her army is in better shape. But it is time its budget was increased. In 1968, the army fell apart; today, it is coming to life. Do we not, finally, have one paratroop division at full strength? Fourteen thousand men, fewer men, it is true, than the Warsaw Pact forces have tanks. And I had a hard time getting it!

This confounded Europe, even the Europe of armies, does not manage to come into being. The Belgians, for instance, refuse to buy our "Mirage" and prefer to offer themselves the luxury of American planes. As though big money should be taken into consideration when we all have our backs to the wall and when we are not at all sure that America will not toss us over if we do not begin to help ourselves."

It is interesting to query an already famous author, Helene Carrere d'Encausse, on the propects of a war with the Russians. She has written a fascinating book entitled "THE EXPLODED EMPIRE," in which she predicts the explosion of the Soviet empire brought about by the Moslem republics in Asia, which very subtly and within the framework of the socialist system are already preparing the ground for their independence. And their population, contrary to that of White Russia, keeps on growing.

Some people have reproached Helene Carrere d'Encausse's book with leading to a lack of action. Would it not suffice, according to her book, to wait, sitting on our high horse, for the USSR to disintegrate under its own weight? But if Russia has already experienced, by reason of events in Afghanistan and Iran, some tugging, it is reasonable to assume that in 1984, the date marked by fate, it will still maintain all of its cohesion. So much having been said, Helene Carrere d'Encausse does not really believe there will be a war.

[J. Larteguy] Is an alliance between China and the USSR, such as the author of the "SIXTH COLUMN" predicts, really conceivable?

[Mrs Carrere d'Encausse] I have difficulty seeing how these two continental nations could come to an agreement among themselves. Basically, everything separates them: history, geography, politics, national temperament. The Russian people fear the Chinese. But their opinion scarcely counts. For more than ten years they were inculcated with a fear of Nazism. This did not prevent Stalin from signing a Germano-Russian pact. A Soviet-Chinese pact is an hypothesis which cannot be totally excluded but, in my opinion, it remains improbable. Like the Germano-Soviet pact, it would have only tactical validity, it would not last and would turn out badly.

[J. Larteguy] In the event of an invasion of Europe, could the Russians count on the support of the European communist parties?

[D'Encausse] Which ones? They are insignificant outside of Italy and France. The French Communist Party? It has a double face: that of machine politicians like Marchais and that of present-day militants, who are very different from the preceding generation. Better informed, they know that the Soviet paradise does not exist. They are more integrated than one is led to believe in the French community, they are perfectly at ease in it and intend to remain so. They would not stand for a foreign invasion, even one from a fraternal country, which would basically call into question their life style. In 1939, because of the blinders they were wearing, a lot more militants would have collaborated with the Soviets. In 1979, it is no longer the same PCF. I do not believe in the possibility of a 6th column.

[J. Larteguy] And Eurocommunism?

[D'Encausse] It is only a word, not a problem.

[J. Larteguy] Could a war, as General Hackett predicts, break out over an invasion of Yugoslavia when Tito dies?

[D'Encausse] Therein lies the basic danger. Because of Yugoslavia, the Communist Bloc as Stalin had created it has cracked asunder: still because of Yugoslavia, this disintegration could spread. Imagine a breaking up of Yugoslavia, that it give in to its separatist demons, that it openly join the West. It would risk being followed by all the European satellites of the USSR if the latter did not react. As a very last resource, if they were called in by a large part of the population, the Croatians, let us say, the Soviets might take this risk. But I still have difficulty believing this, the Soviets will think twice before setting an entire combative people, ready for guerrilla warfare, against themselves. A popular revolt, that could lead far, spread indefinitely, trigger a clash that would lead to a general war the USSR does not want.

I believe that when Tito dies the Soviets will be very careful not to intervene directly but they will indulge in all sorts of technical manipulations they have down pat. This will not prevent the years 1983-1984 from being difficult, dangerous times: they will signal Tito's succession and that of Brezhnev.

[J. Larteguy] What about Iran?

[D'Encausse] I do not believe that the Soviets will ever call into play the 1921 Treaty which authorizes them to enter Iran if they feel they are threatened. They have never been able to do what they wished in this country. An invasion could trigger by contagion a sort of holy war in all of the peripheral Moslem Soviet republics. The Shi'ite revolution of Khomeyni involves them more than one thinks.

Why would the Russians intervene? In Tehran, there is no regime to save: the Tudeh Communist Party, which they have always left to its fate, is insignificant and has fallen into disrepute. The serious troubles they are experiencing in Afghanistan have taught them that they play with fire when they set Islam at their throats. Why would they begin over again the same error on a much larger scale? They will support, by their usual methods, disorder, anarchy, which will make it possible for them to get from the new regime more than they ever got from the shah, which was already nothing to sneeze at: overflight rights through Iranian airspace for Soviet military aircraft, for example.

[J. Larteguy] In the event of a general war, following minor setbacks in Europe, on the central front or in external theatres of operations, would the USSR satellites be able to revolt, the Asian Moslem republics secede, the empire explode?

[D'Encausse] At the slightest military setback, the entire system could blow up, especially if the USSR, instead of being attacked on its own territory, were to be the aggressor. Even then! The Russian people are so fed up with the regime that I wonder if in that case they would have the same burst of energy as in 1941, which was caused by the intolerable brutality, stupidity and racism of the Nazis. I think that with the exception of the Armenians--out of fear of the Turks and the Belorussians--who are quite near the Russians, the Asian republics and others like the Ukraine, Estonia, Latvia...would slip out from under the system. The satellites would abandon them, with Poland in the lead. Everything would happen as General Hackett predicts. On condition, of course, that Russia start the war.

[J. Larteguy] This leads to my last question: does Russia want a war? Or, if it does not want war, can it be drawn into starting one?

[D'Encausse] Basically, the USSR does not want war, not out of principle, but because its leaders are conservative, prudent old men, thirsting for security, who are anxious to maintain their own privileges. War could call everything into question. Younger men, if they were to come to power, would belong to this same privileged hierarchy. They would want to avoid war for the same reasons, by prudence and basic conservatism.

Soviet policy tilted in 1970. Until then the USSR was a great continental power: it has become a worldwide superpower, with fleets which plow the seven seas, and the ability to mount an effective intervention in any part of the globe. This has been seen in Africa. The Soviets wanted to become

a superpower out of fear of war, in order to reassure themselves, in order to deter others. But, at the same time, by this newly acquired power, they multiply the risk of confrontation.

They do not want war: they would only venture on war if they had no other choice. They live in a "frozen" regime. The slightest structural reform is extraordinarily difficult for them. Which is what makes them dependent on the United States for grain supplies, because they are unable to change their collective agricultural policy, even though it is aberrant, and they fully realize it. The USSR is a large but extremely fragile edifice: you cannot move one stone without the whole edifice tumbling down. Whence their need for peace. And, at the same time, all of these efforts to render their neighbors fragile by supporting in their countries different forms of contestation, of subversion. Since they themselves are fragile, the Soviets want others to be even more so.

I do not believe that the Soviets will start a war with China. They have probably been tempted to twice before: in 1964 and in 1969. But they did not do so. They were afraid of falling, like the Americans, astride the Asian mouse trap. The Americans had a hard time extricating themselves from it: as for them, they would not get out.

I cannot see the USSR taking the initiative. The septuagenarians in power in Moscow are sober-minded, self-controlled men who only break down doors which are already ajar. The only possible accident: Yugoslavia. And even then!

Will we have a war in 1984?

Certain Western experts, whose duty is to be well informed, agree on a "working hypothesis" which excludes any widespread world conflict. But war has all the same a common denominator hidden beneath different disguises: subversion, politics, economics, a mixture of threats and pressure, followed by periods of detente--the carrot and the stick--in order to achieve Russia's final objective: causing Europe to tip into its sphere of influence while avoiding any American intervention.

It is thus that all of the subversion movements which can fragilize the democratic regimes of our old continent will be utilized: Baader-Meinhof gangs, Red Brigades, Irish, Basque, Corsican, Breton, and, tomorrow, Provencal autonomists. The Soviets are not directly implicated, but operate obliquely through the Palestinians, the Cubans, Qadhdhafi.

At the same time, by the conquest of Africa, they dry up our supply sources of raw materials, of energy, or at least make them extremely expensive, in order to bring about unemployment, social disorder, strikes, violent confrontation. Communist parties, satellites and unions which they control still concur by their intransigence in bringing about this collapse. The Russians, at first, will not appear too difficult to please, holding out a

hand to these drowning countries. They will "Finlandize" them without making them communist. They have every reason to maintain certain efficient "capitalist" structures in the industrial and agricultural sectors, before venturing to enter the final round: causing the United States to fall into line and abandon its alliance with China, whom fear will then lead back to more orthodox Marxist opinions and feelings.

This plan is reputed to have been thought up by those who are called "directors," lucid, cynical technocrats, for whom Marx is old hat, and who wield real power in Russia, behind the screen of official men of straw. We are supposed to have witnessed only the first steps of its being put into execution.

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COUNTRY SECTION FRANCE

FRENCH AEROSPACE INDUSTRY'S 1978-1979 ACCOMPLISHMENTS

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[Text] The GIFAS [French Aeronautic and Space Industries Group] has just released the report presented by the GIFAS staff to the regular general assembly session of 5 July 1979 by Mr Jean Dours, general delegate. This report analyzes the final returns of the French aerospace industry for 1978.

Sales Volume: 10 Percent Growth (in Current Francs)

The consolidated sales volume, 24.225 billion francs, increased by approximately 10 percent in current francs over the 1977 fiscal year (22.026 billion francs). Because of the variation in industrial prices, this amounts to an increase of only 0.6 percent in constant francs. But in analyzing this result, we should also note the strong upsurge in work completed, but not yet billed, and which therefore does not appear in the 1978 figure. The increase in this item included over 2.6 billion francs, or 10 percent of the total volume.

While the volume of business done with the state (8.934 billion francs) increased by 10.1 percent, the volume with other French clients (1.941 billion) dropped by 20.6 percent, while the volume of exports (13.350 billion francs) increased by 15.9 percent.

The total non-consolidated sales volume, that is, including movements between companies in the industry) rose from 26.863 billion in 1977 to 29.175 billion in 1978. Movements between companies in the industry, going from 4.887 billion in 1977 to 4.950 billion in 1978, showed no significant changes.

The export volume is broken down as follows. Sales of aircraft: 17 Airbus, 22 Falcon 10, 21 Falcon 20, 11 Corvette, two Mirage III, 10 Mirage 5, 49 Mirage F-1; 375 light planes and helicopters: 37 Lama, 15 Alouette III, 20 Ecureuil, eight Dauphin, 74 Puma, 51 Gazelle; engines: 81 Atar and Turbomeca turbo-engines; plane parts: Jaguar, Alpha Jet and CF 6 50 and Adour engines produced through international cooperation programs.

We find a slight decline, from 2.322 billion francs in 1977 to 2.288 billion last year, in spare parts exported.

Over a 10-year period,there has been an 85 percent rate of growth in the sales volume expressed in constant francs. In this volume, the proportion of exports has continued to grow, and last year's exports equalled 55.1 percent of the total.

In last year's sales volume, military equipment accounted for 74 percent of the total, and civilian equipment for 26 percent. Moreover, while studies accounted for 15 percent, manufactured items and parts came to 78 percent, and repairs, 7 percent. Aeronautic equipment accounted for 71 percent of the total, missiles for 26 percent, and space for 3 percent.

Personnel Stability

Personnel levels rose from 103,295 salaried employeed at the end of 1977 to 103, 424 at the end of 1978. A slight upturn has thus begun.

For aircraft and missiles (58,029 employees at the end of 1978), the increase was 0:6 percent, while for engines (21,621 employed at the end of 1978), we find a decline of 1.9 percent, and for equipment (23,774 people at the end of 1978), the growth was 0.9 percent. An increase in hiring has been observed since the start of 1979.

Personnel are divided in the following categories: 14,372 engineers and management-level persons; 36,631 technicians, designers, and supervisory people, 13,430 office workers, and 38,991 blue-collar workers.

Orders: Growing Proportion of Exports

At the end of last year, the amount of orders on hand for planes, missiles, and engines was estimated at 62 billion francs, of which 37 billion was for export. Options are not included in this estimate.

Of this total, the amount of French orders (both state and airlines) came to 12.5 billion francs for five Airbus, four Transall, three Mystere Falcon 10, one Mystere Falcon 50, 33 Mirage F1 including nine two-seat versions, 15 Super Etendard, 66 Alpha Jet, 22 helicopters of various types, tactical and strategic missiles, and space materiel.

The amount of export orders was 17.154 billion francs in firm orders including 30.3 percent in civilian orders, compared with 21 percent in 1977 and 14.7 percent in 1976. Foreign orders were for 48 Mirage F1, 121 Alpha Jet, 50 Airbus, 27 Falcon 10, 17 Falcon 20, 28 Falcon 50, six Corvette, 385 light planes, 313 helicopters of all types, and over 20,000 tactical missiles and space materiel.

The value of the French share in the equipment produced through international cooperation programs is 8.312 billion francs.

The geographic distribution of export orders is as follows: 28.07 percent for the EEC countries (4.815 billion francs), 1.85 percent for countries of the franc zone (317 million francs), 12.82 percent for the United States (2.200 billion francs) and 57.26 percent for the rest of the world (9.823 billion francs).

Shipments of materiel to foreign clients involved invoices totaling 13.350 million francs (excluding tax).

It is interesting to compare the amounts of orders in relation to the amounts of deliveries: airframes and complete planes: 9.892 billion francs in orders and 5.864 billion francs in deliveries; helicopters: 1.446 billion francs in orders compared with 1.660 billion francs in deliveries; engines: 1.964 billion francs in orders compared with 1.859 billion in deliveries; missiles and space: 2.163 billion francs in orders compared with 2.643 billion francs in deliveries: equipment: 1.690 billion francs in orders compared with 1.324 billion francs in deliveries.

During the last 8 years, orders came to 83.983 billion francs and deliveries made came to 59.046 billion francs. If we deduct the 10.009 billion francs in imports for French builders, the balance for the actual aerospace construction itself is 49.037 billion francs. Imports for French users during the same period came to 10.291 billion francs, so the remainder of the French aeronautic balance of trade for the 1971-1978 period comes to 38.746 billion francs.

These results have kept the French industry in second place among aerospace industries of the non-communist world, behind the United States.

Prospects for the French Aerospace Industry

The GIFAS reprot concludes by sketching prospects for the industry. It points out the growth of the Airbus and CFM-56 programs and says that the results achieved come from the efforts made with determination and perseverance in the following areas.

a. National programs for equipping the French Air Force. These programs have enabled us to export freely to the international market.

b. Programs conducted in cooperation in which the French aerospace industry holds a prime position because of its ability to develop complete equipment for its national programs.

These results also show that the French aerospace industry has in all sectors (airframes, engines, equipment) reached a technological level recognized internationally by its clients and its partners.

Yet, a situation that is good today may be under challenge tomorrow in our complex and difficult world.

Most of the products of the aerospace industry are characterized by the great length of lead time separating the start of actual development from the time of sales. Thus, decisions concerning the Airbus, the CFM 56, the M 53, and Ariane were made about 10 years ago.

During the next 10 years, this industry must be able to do the following:

a. Confirm its technological mastery in programs it is doing either alone or in cooperation.

b. Strengthen its competitive position. This is especially important as the limited volume of our domestic market forces us to have greater access to foreign markets, so we must continue to prepare for the future by starting work soon on either derivative or new equipment to be introduced on the international market toward the end of the 1980s.

c. Preserve its ability to develop alone complete equipment by doing a minimum of national programs, such as a new generation of combat plane equipped with a new engine, the M 88 of the class of 7.5-8.5 tons of thrust, especially suited for light two-engine planes.

d. Continue its development policy. It should continue developing both familes such as the Mirage 2000 and M 53, the A 300 B 2/4 and A 310, CFM 56, the Ariane launcher, and satellites, and lines, especially by enlarging the line:

1. Of Airbus Industry towards larger capacities (B 9),longer flight ranges (B 11), and a new bi-CFM 56 medium range, medium capacity plane (100 to 160 seats).

2. Of helicopters by different versions of Puma, of Dauphin, of the Ecureuil.

3. Of tactical missiles.

4. Of civilian engines with the CF 6-32 (13-17 tons of thrust) as part of the SNECMA [National Corporation for Aircraft Engine Design and Construction]/General Electric cooperation program, in order to present a series of engines ranging from 8 to 25 tons of thrust with the CFM 56 and the CF 6-50/CF 6-80.

Over 200,000 People

At the end of 1978, personnel employed by the aerospace industry came to 103,000 people. But in reality, the aerospace industry in France involves a number of jobs over twice this figure if we include the network of suppliers and subcontractors which the aeronautic industry uses, and the organizations working on equipment maintenance and repairs.

The growth in sales over the past 2 years of military equipment, the A 300 B 2/4, business planes, the prospects which have opened up for sales of the A 310 and the CFM 56 lead us to predict a certain increase in personnel employed by the aerospace industry itself, and the creation of a great many related jobs in industry with suppliers and subcontractors. This subcontracting may in certain cases, and especially for engines, extend throughout the mechanical industry.

These favorable prospects are tempered by the problems we have in maintaining our competitive edge, threatened by differences in inflation rates and variations in currency parity rates

between France and its competitors. So there will be no reason for us to relax. Builders will work to keep France in the enviable position of having an aerospace industry active in today's world. The results obtained have been achieved by a joint effort of both industry and the government. This effort must be continued.

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COUNTRY SECTION FRANCE

RESEARCH IN 1980 TO GET NEARLY 15 BILLION FRANCS

Paris AIR & COSMOS in French 22 Sep 79 p 16

[Text] Secretary of State for Research Pierre Aigrain presented to the press, on 13 September, the 1980 research budget, together with an analysis of the French research effort and the 10-year research program.

The 1980 research budget is one of transition toward the accelerated French efforts advocated on several occasions--in 1975 and this year--by the president of the republic. The total credits in the "research package" (new program authorizations and operating expenses) amount to 14.8883 billion francs in 1980 as compared with 13.2659 billion francs in 1979, an increase of 12.7 percent. Of this total research package, 1.3694 billion francs are allocated to the CNES [National Space Studies Center] (+13.4 percent) and 239.2 million francs to the CNEXO [National Center for Exploitation of the Oceans] (+13.2 percent), whereas the COMES [expansion unknown] will receive 81.4 million francs (+21 percent).

The CNES's 1980 budget will in fact exceed 1.6 billion francs. It consists in part of 1.157 billion francs in credits for program authorizations (versus 991.1 million francs in 1979) and 211.7 million francs for operating expenses, totaling 1,369.4 billion francs in subsidies from the Ministry of Industry contained in the ersearch package. But to this must be added the subsidies from other ministries, outside the research package, amounting to 242.2 million francs in 1980, bringing the total of state subsidies to the CNES up to 1.6116 billion francs for 1980. To this, however, must still be added--in order to arrive at the sum total of the CNES budget--the expenditures from the CNES's "own funds," which will be authorized by its board of directors on 21 September. The CNES Budget for 1980 will thus substantially exceed 1.6 billion francs.

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COUNTRY SECTION FRANCE

1980 DEFENSE BUDGET OUTLINED, DISCUSSED

Paris AIR & COSMOS in French 22 Sep 79 pp 12-13

[Text] After having commented, during a press conference last Tuesday, on the report he had transmitted to the National Assembly on 1 September 1979 informing that body of the status of implementation of the 1977-1982 Planning Law, Defense Minister Yvon Bourges discussed the major aspects of his draft 1980 defense budget.

Budget Increase of 14.9 Percent

The 1980 defense budget totals 88.6 billion francs, exclusive of allocations for payment of pensions (16.8 billion).

Compared to the 1979 budget of 77.11 billion francs, the 1980 budget represents an increase of almost 15 percent in the total under Sections III and V. This increase is substantially greater than that granted to the civil ministries, whose allocations have increased by an average of only 11.1 percent. We note, by way of comparison, that the increase in the Federal Republic of Germany's [FRG] 1980 defense budget is only 3 percent.

Budget Conforms to Military Planning Law

The Planning Law of 19 June 1976 relative to the military expenditures and equipping of the armed forces from 1977 to 1982 established as a guideline a total budget of 87.26 billion francs for 1980.

The draft 1980 budget thus provides an additional sum of 1.341 billion francs for the armed forces over the estimate written into the law.

In 1980 the defense budget will represent 3.76 percent of the gross national marketed product as compared with 3.41 percent in 1976, 3.56 percent in 1977, and 3.67 percent in 1979.

Equipping of Forces Has Priority

Procurement disbursements under existing programs in the 1980 budget will total 39.84 billion francs. This represents a 19.5 percent increase over 1979 under this heading, while operating expenses will increase only 11.4 percent.

New program authorizations in 1980 will reach 52.5 billion francs, a 22.4 percent increase over the 1979 total allocation for this sector.

The priority assigned to the equipping of our forces is revealed in the evolution of relative budgetary apportionments between Section III (which covers operating expenses) and Section V (which covers procurement expenditures).

The proportion of credits allotted to procurement--45 percent of the 1980 budget--is growing at a faster rate than was estimated in the Planning Law:

	1977	1978	1979	1980
Planning Law estimates	41.2	41.8	42.9	44.5
Annual budget actuals	40.7	42.1	43.2	45.0
Variations	- 0.5	+ 0.3	+ 0.5	+ 0.5

Operating Expenses

Section III totals 48.759 billion francs, representing 55 percent of the defense budget--an increase of 11.4 percent over 1979. Military pay and allowances, representing 66.85 percent of Section III and 36.8 percent of the defense budget, are up 10 percent. This increase will make possible a continued improvement in military living conditions. The last stage in the forming of the corps of majors will be funded, and the three Armed Forces components will have a total of 5,000 majors by the end of 1980.

The increase in allocations for fuel (+22.3 percent) and for preventive maintenance of equipment will, despite the prevailing uncertainty as to the evolution of petroleum product prices, enable continuation of the special effort that has been made over the past several years to improve training conditions of the components. This budget provides: 50 days of field exercises with organic equipment for the Army; 94 days at sea for Navy vessels; and 450,000 flying hours for the Air Force.

Procurement Expenditures

These amount to 39.843 billion francs for outpayments under existing programs (+19.5 percent over 1979) and 52.55 billion francs in new program authorizations (+22.4 percent over 1979).

In line with the objectives laid down by the Planning Law, this sizable increase in procurement expenditures provides for:

--continuation of the effort being deployed in the nuclear forces sector.

The credits allotted to the FNS-ANT [Strategic Nuclear Forces-Tactical Nuclear Weapon] sector represent one-fourth (25.19 percent) of new program authorizations, and approximately one-third (31.17 percent) of current program expenditures under Section V. These credits will enable the continued strengthening of our nuclear capabilities and the development of future generations of weapons systems;

--an increase in the allocations to studies and research.

The defense minister has always considered studies and research to be essential for the future of the French Armed Forces. The armaments domain is in fact one whose technological evolution is among the most rapid and most demanding of constant effort to ensure the up-to-dateness and effectiveness of its equipment. The studies and research conducted by the Ministry of Defense are not concerned with military objectives exclusively; they contribute equally to scientific and technological progress, for example, in the nuclear domain, that of materials and metallurgy, that of electronics and of optoelectronics.

The effort undertaken 4 years ago is being continued in the present budget for 1980.

In 4 years, the funds allotted to studies, research and development have doubled (+99.3 percent to new program authorizations and +102.9 percent to current program expenditures). The increase has been especially heavy in the areas of feasibility studies and research (+146.6 percent in 3 years), now representing 5.3 percent of the total of Sections V and VI.

In 1980, studies, research and development will amount to 12.4 percent of the budget, versus 11.7 percent in 1979 and 10.5 percent in 1978. FNS research and studies have grown as much as has the defense budget, reflecting the fact that the major studies on the M4 missile have been completed and that this program has now entered its experimental and pre-production phase.

Around 75 percent of the total allocation to studies, research and development goes to development alone, and the remaining 25 percent to studies and research. The distribution of credits according to industrial sectors is as follows: electronics 27 percent; aeronautics 15.5 percent; missiles 22 percent; naval vessels 5 percent; ground forces equipment 3 percent; conventional weapons 5.5 percent; nuclear weapons 18 percent; miscellaneous 4 percent.

Developmental work in progress includes:

--in the domains of telecommunications and data processing: the SACRA [Automated Command and Forward Area Information System]; the Navy data transmission network;

--in the Ground Forces domain: the tank that replaces the AMX 30; the battlefield surveillance platform-mounted radar (Argus); the antitank helicopter;

--in the Navy domain: the submarine-launched SM 39 variable environment missile; the M4 missile; the multi-role Sonar; the ADANG [expansion unknown] weapons system for the ANG [expansion unknown] patrol plane;

--in the Air Force domain: the Mirage 2000; the Epsilon plane; the M 53 motor; the Super 530 air-air missile; the ASMP [Medium-Range Air-Ground] missile; the POD [expansion unknown] ATLIS [Single-Seat-Aircraft Laser]

--for the three components: the implementation according to plan of the principal equipment programs as follows:

For the Air Force, the 1980 budget calls for ordering 23 Mirage F.1 and 22 Mirage 2000. The renovation of the transport fleet (8 additional Transalls) and the procurement of modern trainer planes (22 Alpha Jets) is proceeding. Lastly, the effort to improve air base defenses has not diminished: 4 Crotale batteries and 56 new 20 mm batteries are provided for.

For the Navy, besides maintaining the priority assigned to the Strategic Naval Force [FOS]--the building of the sixth SNLE [Missile-Launching Nuclear Submarine] the "L'Inflexible"--priority has also been given to the credits for the building of modern ships.

For the Ground Forces, besides continuing the antitank (Milan [Light Infantry Antitank Missile], HOT [Overhead Subsonic Optically Teleguided Tube-Launched Missile] and anti-aircraft (Roland [low-level air defense]) efforts, the 1980 budget is characterized by the ordering of armored fighting vehicles.

For the gendarmerie, the 1980 budget provides for the continued equipping of units with modern materiel and for the construction of housing.

Reconnaissance and Detection

Regarding low-level detection, the minister underlined the improvements made thanks to ALADIN [expansion unknown] stations, but frankly acknowledged their insufficiency. No decision will be taken before 1982. Studies are proceeding along various lines of thought on the coupled missile-plus-detection system approach.

Asked about cruise missiles, the minister replied that research is proceeding in two domains: mobile land-land (strategic) and cruise missiles (tactical). Priority is being given to the first of these. He recalled that the F-1, the Jaguar, and the Super Etendard will carry the ASMP missile.

French Nuclear Effort After 20 Years

On 13 February 1960, France exploded its first experimental nuclear fission weapon at Reggan.

On 28 August 1968, at the Pacific Experimental Center, she succeeded in her first national thermonuclear explosion.

Concurrently, the Mirage IV weapon system, consisting of an aircraft-delivered nuclear bomb, was placed in service in 1967, the SSBS [Surface-to-Surface Strategic Ballistic Missile] installed on the Albion Plateau became operational during the summer of 1971, and the submarine "Le Redoutable," equipped with 16 ballistic missiles, completed its first operational patrol mission in early 1972.

Currently, the French FNS consists of Mirage IV aircraft, 18 silos installed on the Albion Plateau, and shortly, 5 SNLE's equipped with 16 megaton-yield-warhead missiles each. In addition, an ANT consisting of the Pluton system and of bombs that can be delivered by the Jaguar, the Mirage III and the Super Etendard completes our national deterrent force.

These results are the fruit of a long national effort that has enabled the building of an independent strike force under the sole command and sole authority of the French Government.

This effort continued through the conception, design and realization of thermonuclear warheads and through their placement in operational service aboard the SNLE's beginning in 1977.

This effort continues now through nuclear warhead miniaturization work and through the development of the M 4 system. At the end of 1978, successful warhead dispersion tests gave France its entry into the club of nations having multiple-warhead reentry vehicles at their disposal. This was only a few years after the Soviets had attained this level of technology, although France had exploded her first thermonuclear warhead 17 years after those of the USSR and the United States.

By 1985, France will have a strategic system in being based on a technology equivalent to that on which the present USSR and USA systems are based.

With the budgetary credits allocated to the nuclear forces for 1980 (13.226 billion francs in new program authorizations), the funding of the nuclear forces effort will have increased by 77 percent since 1975 as compared with an increase of only 20.4 percent between 1969 and 1973.

This effort is not deemed unreasonable. It represents 0.5 percent of the gross national marketed product. The defense budget as a whole will amount to 3.76 percent in 1980.

Air Force Budget Sections III and V

For the Air Force, the 1980 budget provides operating expenses and procurement expenditures as follows:

--Section III: 8.489 billion francs, including 1.083 billion for fuels and fluids;

--Section V: 15.489 billion francs in new program authorizations; 10.055 billion francs for current programs. The total of new program authorizations is distributed as follows, in millions of francs:

General prototype studies	244
Motor propulsion systems	245
Aircraft development	1,344
Electronic equipment research	51
Electronic equipment development	143
General missile studies	17
DTEn [Technical Missile Directorate] development	183
Technical equipment for government establishments	132
DTCA [Technical Directorate for Aeronautical Construction] equipment and infrastructure	50
Defense Ministry's Air Department	315
Central Directorate for Ordnance, weapons and ammunition	180
DTCA weapons and ammunition	508
DTEn weapons and ammunition (Magic 1 and 2, Super 530, maintenance)	317
Ground equipment	221
Electronic equipment manufacture	1,106
Simulators	69
Miscellaneous Air Force equipment	89
Two-engine trainers	21
Epsilon	20
Jaguar	160
Mirage F-1	2,035
Alpha Jet	1,012
Transall	1,320
Mirage 2000	3,084

Replacements	1,618
Crotale	450
Construction and installation work	549
Real estate procurement	6

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COUNTRY SECTION FRANCE

DRAFT 1980 DEFENSE BUDGET UNDER EXAMINATION

Paris AIR & COSMOS in French 29 Sep 79, pp 10-11

[Text] The National Assembly's commission on national defense and armed forces and commission of finances, economy, and planning met on 19 and 20 September 1979 respectively. The first of the two commissions met in order to hear a report from Mr Arthur Paecht on the execution and implementation of the military budget. The second commission met for the same purpose as well as to review expenditures contained in chapters III, V, and VI of the 1980 defense budget.

The first of the two commissions expressed a number of criticisms and reservations regarding the status of military expenditures.

It appears that the status of the budget is difficult to assess and that budgetary sections have evolved in a manner different from that which had been envisioned in 1976.

In contrast to what had been envisioned on 25 May 1976, expenditures on nuclear programs as a percentage of total expenditures have been reduced. According to the report these expenditures have represented: in 1977, 13.6 percent of the total amount although the budget had provided for 16.8 percent; in 1978, 13.7 percent versus 16.3 percent; in 1979, 14 percent versus 16.2 percent.

The smallness of these expenditures runs the risk of jeopardizing the effective carrying out of future nuclear programs.

The government report is not a comprehensive review of the budget. Parliament could have waited for such a report but was content to accept a report analyzing past expenditures in deference to the wishes of the minister of defense. A comprehensive report, it is believed, would have included figures and precise data on overall objectives for the next 3 years and not just for 1980.

Too many elements within our defense structure are not operational in the event of a modern war. This reporter believes that, since this situation

exists in spite of a continued increase in expenditures over 3 years, it would be better to "think about the suitability of our defense structure--which implies choices that would appear urgent to make--rather than just asking if one or another major program has or has not been carried out."

Mr Paecht believes that the next budget should be submitted to parliament in 1981 in order to avoid any discontinuity in the carrying out of programs.

The commission on finances feels that the physical objectives concerning the strategic nuclear force have been achieved and, as far as the principal armament programs are concerned, orders and deliveries of material for the Air Force are progressing at a satisfactory pace.

Nevertheless, the commission noted that military expenditures as a percentage of the state budget have decreased and the actual increase in funds was less in 1978 and 1979 than had been planned for in the budget. In addition, expenditures for the FNS have increased less quickly than have those amounts that are paid out under chapter V of the budget's common section. The commission on finances also expressed its regrets that there was so little information available on expenditures that will be made and the nature of the vehicles that will be used to replace the ground to ground and air to ground components of the FNS (cf. on this subject AIR & COSMOS, No. 779, p 13). The commission also expressed the view that the budget amounted to a step backwards in the respect that it did not indicate the manner in which the expenditures would be apportioned among the various large systems. The commission also believed that the new reference point chosen by the government (the defense budget expressed as a percentage of the PIBM or gross domestic market product, and no longer as a percentage of the state budget) should be the subject of a vote in parliament.

On this point we should point out that the minister of defense, during his press conference held last week, expressed his viewpoint quite clearly: in 1976 it was expected that the 1982 defense budget would represent 20 percent of the state budget, within a constant budgetary structure. Now that this structure has been altered, particularly as a result of supplementary charges supported by the armies due to exceptional circumstances (national solidarity operations in France and interventions in Africa and Lebanon at the request of friendly countries) it was judged more equitable to select the gross domestic market product as a reference.

Thus, under the same structure as existed in 1976, acknowledged the minister, the 1979 defense budget would represent 18.5 percent of the state budget. If the PIBM is used as a reference it would work out that the defense budget represented only 2.9 percent in 1975, that this year it represents 3.76 percent, and that it will represent 3.85 percent in 1980, 3.94 percent in 1981, and more than 4 percent in 1982.

During the review of the budget by the commission on finances Mr Fernard Icart, a general reporter, expressed the desire that "our air transportation

fleet be at a level commensurate with the needs of our intervention divisions."

On this subject and in response to a question asked of the minister of defense during his press conference, the latter stated that it was not necessary to have specific forces for foreign intervention. The minister of defense has available, or will have available, more than 80 Transall of which some are tankers and some capable of being refueled, the fleet of civil aircraft which can be pressed into service, and two aircraft carriers.

During the review of expenditures under chapter III of the 1980 budget (reporter: Mr Andre Rossi), the commission on finances, while noting that the level of training for forces would be maintained, deplored the "slow rate of growth in expenditures planned for maintenance."

On the subject of chapters V and VI, Mr Jacques Cressard observed that with 39.8 billion francs in credits for payment and 52.5 billion in program authorizations, their growth is maintaining a fast pace, the air section being the section having the highest rate of growth.

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COUNTRY SECTION FRANCE

COMMENTS ON 1980 TRANSPORT BUDGET DRAFT

Paris AIR & COSMOS in French 29 Sep 79 pp 10, 40

[Text] In our last issue we reported on the press conference held on 20 September 1979 by the minister of transport during which he presented the proposed budget for his ministry for 1980. The budget is being presented in a new form this year which will result, during the course of its discussion in parliament, in its being voted on by chapter (chapters III and IV together and V and VI together) and not by area of activity.

We now offer some brief comments on the principal provisions contained in the common section and in the civil aviation section of the proposed budget.

The total of ordinary expenditures (chapters III and IV) and payment credits in chapters V and VI amounts to a little more than 3.037 billion francs or an increase of 3.7 percent over the 1979 civil aviation budget (2.93 billion francs).

Credits planned under chapter III (1.168 billion francs) represent an increase of 11.5 percent over the 1979 budget.

Within chapter III the percentage increases from 1979 to 1980 are as follows: personnel expenses: 11.5 percent; technical and maintenance expenses directly related to air navigation: 16.4 percent.

A good part of the substantial increase in funds allocated to the category of "remuneration of active personnel" will permit the creation of 90 new jobs in the corps of technical personnel assigned to air navigation: 8 engineers, 21 air control officers including 15 supervisors, 25 electronic technicians, and 36 other technicians as well as 130 job changes. The cost of all of these actions will be about 11 million francs.

There is also a proposed expenditure of 10 million francs for the restructuring of the system of remuneration for technical personnel: the technical and operating premiums have been revised.

An expenditure of 250,000 francs will enable the air transport police to acquire new vehicles.

In order to improve the operation of air safety installations an expenditure of 1.25 billion francs is planned for reimbursement of travel expenses for electronic technicians (ESA) whose job it is to regulate, control, and maintain ground installations.

Also within chapter III, we find that the aeronautical training and technical control service will get 2 million francs for the training of navigational personnel ("an adjustment to the allocation necessary for the operational maintenance of crews").

As for the amount allocated to the National School of Civil Aviation (ENAC), it is increasing 13 percent from the 1979 figure of 48.5 million francs to 54.75 million francs. About 3 million francs are earmarked for the purchase of new equipment.

Expenditures contained in chapter IV (public intervention) for 1980 are less than those for 1979 (380.7 million francs compared with 442.13 million francs). The difference is explained by the following: a drop in the amount allocated to Air France under the terms of the contract between the state and the national company (down 62.3 million francs); a granting of 2 million francs to Air France for service to Moroni (extension of the Paris to Dar es Salam line) but discontinuance of payments for service to Polynesia and the island of Mayotte (down 625,950 francs); an increase (up 1.78 billion francs in the amount given to Air Inter (operation Mercury); a drop in the amount allocated to SFACT for aeronautical training (8.93 million francs compared to 11.26 million francs).

Of this 2.33 million franc reduction 330,000 francs are actually a transfer from one chapter to another (France's participation in creating a common navigational code), and the remaining 2 million francs represent a reduction in the category "allocations for equipment and instructional materials for aeronautical associations" which received 4.4 million francs in the 1979 budget. This reduction in purchasing funds has provoked a strong reaction in general aviation circles (cf. AIR & COSMOS, No 779, pp 14-16).

As far as chapter V is concerned we find an increase of 15 percent in the amount authorized for programs (1.5 billion francs compared to 1.3 billion francs). We will not dwell here on the amounts provided civil aviation research and development programs since this subject was examined in some detail in our issue number 770 (page 11).

In addition to aeronautical construction the major effort bears on the construction of the future CRNA in Reims and on the extension of the airport apron in Nice.

As for air navigation (in-flight air traffic), the sum of 119 billion francs has been authorized for the following programs (chapters V and VI): 31 million francs for the CRNA in Reims; 22 million francs for the other regional centers, almost 30 million francs for the Cautra III and IV information systems, 10 million francs for air-ground communications, 5.3 million francs for research, testing, and development of materials (of which 130,000 francs is for new materials to facilitate search and rescue operations in the wake of air disasters), and 200,000 francs for the common approach to Roissy-Creil.

For improvements to airfields 108.13 million francs have been authorized for programs and will be apportioned as follows: the extension of Nice-Cote d'Azur: 52.41 million francs; resurfacing of Strasbourg: 5.5 million francs; resurfacing of Bordeaux: 3 million francs; reconstruction of vehicular roads at Toulouse-Blagnac: 1.6 million francs; construction of buildings: 2.7 million francs in Martinique; 2.7 million francs in Guyana; 1.4 million francs in Guadeloupe; 2.1 million francs on Reunion; 900,000 francs on Mayotte; 3.4 million francs in Polynesia, and 1.8 million francs in New Caledonia. Also, equipment for airport infrastructures on a regional basis: 3.2 million francs for the northern region; 2.2 million francs for the southwestern region; 5 million francs for the southeastern region; and 4.1 million francs for installation of airport security measures.

And finally, 16.42 million francs have been authorized under chapter V. Of this amount 1.31 million francs are for technical control, 8 million francs for the acquisition of aircraft and other airborne equipment, and 7 million francs for gound equipment.

A total of about 100 million francs has been earmarked for the various aeronautical programs such as DNA, SFACT, and DPAC. The funds, which will be used for research, include: 11 million francs for the ONERA, 19 million francs for the reduction of fuel consumption, 16 million francs for the reduction of harmful effects, 18.3 million francs for "marketing studies," 15 million francs for technical and aeronautical control (safety and regulations), and 15 million francs for air navigation.

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COUNTRY SECTION FRANCE

MILITARY COMMUNICATIONS NETWORK FOR 1980-2000 OUTLINED

Paris AIR ET COSMOS in French 6 Oct 79 pp 39, 56

[Text] The French and Belgian land armies are being equipped as of now with the equipment comprising the Integrated Communications Network of the Army (RITA), the only mass-produced new-generation system. In terms of its technical and operational characteristics, and its concept dictated by combat imperatives, the RITA seems to be several years ahead of what might be offered elsewhere with sufficient military guarantees.

This system is the result of precise planning pursued under the direction of the Telecommunications Studies and Production Section (SEFT), in close collaboration with the French and Belgian general staffs and industrialists in these two countries.

In the RITA, the problem of military transmissions is approached not by seeking equipment adapted to use in conjunction, but through a profound study of the needs of the general staffs within the difficult contexts of modern combat. This approach is very different from that which led to the systems derived from civil concepts of interchange. As of 1962, studies were undertaken, but it was not until 1972 that the program took on dimensions with the launching of a complete experimental network.

Between 1974 and 1978, the experimental unit, some 200 individuals strong, studied the use of the mass-produced equipment on the spot, verified the wisdom of the choices made and proposed alterations. In 1979, the first pre-production or mass-production equipment was delivered to the French and Belgian armies. On the other hand, the main industrial producers, at the request of the sponsoring bodies, were organized in the PRO-RITA to promote export. Its surveys have already established real interest in a number of countries.

At the beginning of the 1980s, France and Belgium will thus have a tool the performance of which has been achieved thanks to the following basic choices: a grid network, complete coding by number, and integration of mobile subscribers.

A Grid and Computerized Network

The distance between feeder centers can differ in value. In the tactical adaptations selected by France and Belgium, the microwave lengths have a nominal range of 40 kilometers. Varying ranges can be achieved by the use of tropospheric or millimetric beams. Each node in this grid, called a feeder center, has an electronic time switch with a capacity of 12 digital junctions of 1,152 kbits/s each, i.e. 24 channels standardized at 48 kbits/s. A junction makes it possible either to hook in subscribers by means of a concentrator (62 telephone or digital subscribers), or interlinking with the other feeder centers to establish the base grid.

Thanks to the scattering of calls, signaling is parcelled out, step by step, along the available route, automatically ensuring the interlinking of the subscribers insofar as a channel between them is available.

The complete coding by number of the network is in fact the only modern solution guaranteeing consistent quality, effective safeguards, the standardization of channels and total automation.

The choices listed above make it possible to guarantee the flexibility of the network in its tactical uses and mobility of subscribers within the network. They make possible a permanent directory allowing the authorities to plug into any kind of input into the network, using the same number.

Moreover, the resistance to destructive effects and deliberate electronic interference is optimized.

The integration of mobile subscribers, guaranteed automatically by radio duplex channels, provides complete coverage of the zone of action, providing the same services to this type of subscriber as are offered to those interlinked by wire.

The RITA equipment, entirely adapted for military use, has been installed in the French and Belgian models of tactical vehicles.

Each of the network channels handles all types of information indiscriminately. The end of the line equipment is interlinked with the concentrator, which accommodates analog input (300-3,400 Hz) to hook in to the telephone equipment of the subscriber or the modems or the rapid telegraph terminal with 50 characters per second operating on the REFLEX procedure (zero error), and digital input for rapid facsimile (less than 30 seconds for the A4 format) or data.

Finally, the RITA can be interlinked with the NATO network by an automatic interface--NATO-Ritter (STANAG [standardization agreement] 5040), or by a switchboard (manual, in order to control access to non-protected networks) to the radio networks in the combat and civilian zones, etc.

Coordination and administration of the program are provided by the SEFT within the Land Weaponry Technology Office (DTAT), working closely with the general staffs and with the assistance of the SODETEG [Technical Studies and General Enterprises Company]. Some 30 French and Belgian companies are cooperating in this program.

Thus the RITA appears to be one of the most ambitious and modern programs ever undertaken by the armed forces anywhere in the world.

Main RITA Program Companies

Bell (Belgium): concentrators.

CIMSA: Data processing equipment, based on the use of the CIMSA 15M/125 computer (military adaptation of the Mitra 15). "Careme" telex message handling center. "Cecore" command center for RITA network control and management.

CIT-ALCATEL and SINTRA: radio integration/rapid facsimile.

G. Jardillier Establishments: antenna supports, frame aerials.

LMT: portable subscribers' telephone apparatus; electronic commutators; interface boxes for the RITA and NATO networks, or the RITTER network (land army surface-to-surface transmissions network between permanent installations).

LTT: telegraph and cable coupling interfaces.

SAGEM [General Electricity and Mechanical Applications Company]: rapid printer; memory records.

SAT [Telecommunications Company, Inc.]: microwave links (in cooperation with Thomson-CSF [General Telegraph Company]).

SECRE [Electronic Construction Studies and Research Company]: mixed manual exchanges, with the public networks, radio networks in the combat zones and VHF/UHF air-surface liaison (ALAT helicopters, for example).

SODETEG: industrial coordination, documentation, on aid contracts with the SEFT.

Thomson-CSF: Microwave links (in cooperation with the SAT).

Note: Promotion of RITA exports is provided by a joint "advance unit" called PRO-RITA, representing Bell, CIMSA, CIT-ALCATEL, LMT, LTT, SAGEM, SAT and Thomson-CSF.

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COUNTRY SECTION FRANCE

AIR FORCE SEEN NEEDING 'SPECIAL ATTENTION'

Paris AIR ET COSMOS in French 6 Oct 79 pp 13, 56

[Text] The autumn parliamentary session began last Tuesday, 2 October, in the National Assembly, with a debate without a vote on the updating of the military planning law covering the period 1977-1982. The discussion was marked by a long statement, among others, by Minister of Defense Yvon Bourges, from which we quote extensively below.

1985, A Key Year . . . and Beyond

The minister noted first of all that the Fourth Military Planning Law, covering the years 1977 to 1982, made it possible simultaneously to pursue the goals of putting second-generation nuclear weapons in service and modernizing the carrier vehicles, as well as preparing national nuclear weaponry for the end of the century.

"While it was decided," Mr Bourges stressed among other things, "to limit to two the number of firing units (2 x 9 silos) on the Albion Plain, it was agreed to adapt them to the S3 system, in other words to equip them with megaton-force weapons with reinforced capacity.

"The establishment of a fourth lot of M20s will enable us to equip the four SNLE [nuclear submarine missile launchers] which will be operational as of 1980.

"The building of the 'Inflexible' has provided the strategic naval force with a submarine equipped with a more modern weapons and navigation system. It will be directly armed with M4 missiles. The development of the M4 multiple warhead system, with increased range, increased capacity to penetrate the ABM [anti-ballistic missile] defenses and effectiveness for much higher targets will be operational in 1985. Last December, the first tests of the spacing system for multiple warheads were completely successful, while the miniaturization of thermonuclear charges has been mastered.

" . . . The development of the ASMP [air-to-surface missiles] with which the Mirage 2000, and later the Superstandard (Super Etendard) will be

equipped as of 1985, will add an important component to our nuclear forces. The prospects for its development in the field of air-to-surface missiles are varied and interesting. The mastery we have acquired with regard to ramjets allows us to produce missiles based on a so-called ramjet rocket engine. This weapons system is highly competitive with those being developed in the United States.

"Thus it is evident that with the addition of the ASMP and the second generation of SNLE equipped with the third generation of MSBS [underwater-to-surface strategic missiles], 1985 will be a key year in the establishment of our nuclear forces.

"But our effort is not limited to that time period. Work and studies which will allow us to prepare for the nuclear weapons of the last decade of our century have already been begun. Studies have already been initiated on the third generation of the SNLE. Preparatory studies on the fourth generation of MSBS missiles to equip them are already underway, and very important studies have been undertaken on versatile surface-to-surface missiles which may constitute a third generation of surface-to-surface missiles. Moreover, studies pertaining to cruise missiles are being pursued.

"We are participating actively in the ambitious CNES [National Center for Space Studies] land satellite observation program (SPOT), which immediately places France on the level of the LANDSAT system and will serve as a basis for still more ambitious military satellite observation programs for which technical studies have been begun.

"We have undertaken to keep our networks of command, conduct of operations and communications up to the level of the potential development of adversary threats. The credibility of our nuclear forces depends in fact greatly on the security of our transmission system. Toughening the installations and giving the systems mobility and flexibility are the goals pursued.

"All of these actions clearly show that a remarkable effort, more substantial than ever, has been undertaken, making it possible to achieve the most modern nuclear weapons by 1985 and to prepare the systems which we will put in service some years before the year 2000."

Land Army Orders and Delivery

The minister said that, with regard to orders for the land army, "the goals set for the 1977-1979 period have been achieved or are close to being achieved where the AMX 30, AMX 10, tactical wheeled vehicles, the Roland and Hot systems, the Milan missiles, the integrated RITA [integrated communications network of the army] transmissions, the 5.56 guns, the 120 R mortar, and the SA 341 and 342 helicopters are concerned. The orders planned for the AMX 10 advance armored vehicles (VAB) have been exceeded.

There has been a delay in the orders for the rapid-firing 155 gun, because of difficulties in perfecting the ammunition. The real launching of the program may begin in 1980.

Where deliveries are concerned, they are proceeding at a normal rate, making it possible to exceed the goals for the 1977-1979 period: 80 AMX 30s were delivered instead of 57, 900 wheeled tactical vehicles instead of 300, and 540 Milan missiles instead of 510. The deliveries are consistent with the goals set for the period where the Roland and Hot systems, the 120 R mortars, and the SA 341 and 342 helicopters are concerned . . . "

Future Jet-Propelled Aircraft Carrier

Discussing the future of the two aircraft carriers the nation's navy has today, the defense minister noted that these two units "represent a special element in the policy of a nation with responsibilities to assume in numerous parts of the world. The Clemenceau has just undergone complete reoutfitting enabling it to carry tactical nuclear weapons adapted for the Super Standard. The reoutfitting of the Foch will be undertaken shortly. We are concerned about the future of our naval air force at the end of the life span of our two aircraft carriers. The problems to be resolved are of two sorts and are related: one has to do with the platform deck and the other with the apparatus carried. A number of solutions are possible and are currently under study. One thing is certain: future aircraft carriers will be jet-propelled. This is why credits for nuclear boiler studies are already included in the budget. We will probably be able to make the appropriate decision at the beginning of the next decade. And the vessel cannot therefore be commissioned within the framework of the present programming law."

The Naval Air Fleet

"The naval air fleet includes the maritime patrol aircraft and the carrier-based aircraft. The former include our 12 Neptunes, which are being withdrawn from service, and 35 Atlantics. This aircraft renders excellent service on varied missions. It will be replaced toward 1985 by a new generation Atlantic which was approved last year, of which a prototype will fly in 1981.

"Carrier-based aircraft include interceptor, strike, reconnaissance and observation planes. There are about 100 Crusaders, Alizes and Standards. In this sector, replacement needs were urgent and the third planning law authorized the launching of the Super Standard program. Thirty-five of these planes were delivered in the 1977-1979 period. With regard to the anti-submarine helicopters and those for transporting strike forces, in excess of 50-some, 20 Super Frelon helicopters remain in service while the Alouette III anti-submarine helicopters are gradually being replaced by the French-British W G 13 Lynx model, of which 14 were ordered and 22 delivered in the past 3 years."

Air Force Equipment

"The main goal of the planning where the air force is concerned," Mr Bourges noted, "is to maintain the level of about 450 combat aircraft comparable to the most modern foreign equipment. To maintain this potential, the tactical air force has 21 squadrons of Mirage IIIs, Mirage 5s and Jaguars, some of which have tactical nuclear capacity. In 1977-1979, 60 Jaguars of the goal of 75 aircraft were delivered. The plan for equipping this aircraft with electronic countermeasure equipment will increase their capacity and facilitate their avoidance of enemy missiles.

"Three-quarters of the aerial defense craft are now Mirage F1s, of which 34 out of the 35 planned for the 1977-1979 period have been delivered. The commissioning of Matra Super 530 air-to-air missiles at the end of this year will increase the capacity of this aircraft to intercept at high altitudes. But the true successor of the defense aircraft will be the Mirage 2000, the performance of which is in every regard remarkable, and which represents a considerable step forward in comparison to the preceding generation, thanks to very modern technology, the use of new materials in the aircraft structure, intensive use of computer data, and the navigation systems adopted. The new M53-5 engine and the advances achieved in aerodynamics account for a part of the performance of the apparatus: take-off on short runways, excellent climbing speed, flight at more than Mach II at an altitude of up to 18,000 meters. Its radar equipment and weaponry will make it an interceptor of exceptional value, with various adaptations for reconnaissance missions and ground attacks, as well as a two-seater training model. The first orders for this aircraft were placed this year.

"Low-altitude detection, which needs further improvement, is the subject of interrelated STRIDA [Air Defense Data Collection and Transmission System] experiments involving Aladin airport approach radar and mobile tactical radar systems. Aerial protection of bases and sensitive points is being pursued through the establishment of 12 new Crotale surface-air missile sections and 20 batteries of double-barreled 20-millimeter anti-aircraft artillery. But the protection of combat aircraft remains one of our concerns and a plan for the construction of concrete shelters has been undertaken within the framework of the present planning law to correct this shortcoming.

"In the matter of transport apparatus, recent events have shown the importance of being able to move equipment rapidly and far to carry out an action. The decision to resume the manufacture of the C 160 Transall and to purchase 25 of them was a happy one, in particular since the plane in this new series is substantially modified: it can carry 14 tons instead of 8 for 4,000 kilometers; its fuel capacity is increased, and thanks to a system of refueling in flight, it will be able, with a given load, to cover a distance 70 to 130 percent more than its current capacity. In addition, the electronic systems on board have, for their part, been improved.

" . . . Eighty-eight airplanes of the Alphajet series have been ordered out of the 144 included in the planning law; 31 of the 32 planned for the 1977-1979 period have been delivered. The T 33s, which are more than 20 years old, and the Mystere IVs are thus being gradually replaced.

"If the basic aspects of the schedules included in the planning law were achieved, except for the delays which occurred in the launching of the Mirage 2000, it is only just to recognize that special attention should be devoted to the equipment of our air force during the second period of the law's application to achieve its goals in satisfactory fashion. We will see to this."

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COUNTRY SECTION FRANCE

STEPS IN PLANNING NEW NAVAL VESSEL OUTLINED

Paris ARMEES D'AUJOURD'HUI in French Oct 79 pp 56-57

[Article by Commander Philippe Sainte-Claire Deville: "Shipboard Weapons Systems--Dialog Between Sailor and Builder"]

[Text] Drawing up the plans and specifications for a new warship involves a long exchange of opinion between the Shipbuilding Technical Directorate--most often represented by the Shipbuilding and Naval Weapons Technical Service--and the Navy General Staff. (Commander Philippe Sainte-Claire Deville attended the naval academy between 1953 and 1955. After graduating from the communications school and the war college, he commanded the patrol boats "P-700" and "La Lorientaise" the escort vessels "Le Lorrain" and "Bouvet." He is currently assigned to the "Fleet A-building" Bureau, Naval General Staff.)

After the decision has been made to build the vessel and after the necessary funds have been allocated, the minister picks the shipyard that will build the vessel and signs the construction start dispatch which means that the indispensable dialogue between engineers and naval officers will continue, although this time it will be conducted by new conversation partners. On the builder's side, they involve engineers from the local DCAN [Shipbuilding and Naval Weapons Directorate]; as for naval officers, we will primarily be dealing here with the major-general at the port where the shipyard is located (or the port where the vessel will be armed later on if it is built in a private shipyard) and the officers of his staff. Then the future officer in charge of the energy-propulsion unit will be designated in time to be able to attend the factory test of the power plant and he will also keep track of the on-board assembly work. Assisted by a design bureau and a crew nucleus, he will be the main conversation partner of the engineers from the shipyard until the "officer designated to exercise command" has come in; this is the officer who will become the ship's captain on the day weapons are taken on board for trials. The

initial skeleton crew will grow progressively. Parallel to the progress of the work as such, navy officers and petty officers will report for duty on board as the installations they are going to handle take shape.

The regulation framework is perfectly defined; it provides guidance and hints to prevent interference and recalls the reports to be made out; those reports are as limited as possible, in numbers and volume, and are designed to inform the higher echelons. This organization however can work only if the individuals concerned do their job and we are happy to note that relations are generally excellent, especially during the hull assembly phase and the installation of the power plant, where the "sailors" have steady conversation partners in terms of perfectly defined functions and responsibilities, such as the engineer in charge and the research bureau, the chief shipyard engineer and the crew chiefs and shipyard foremen. Relations remain good, although this time they are conducted with more widely scattered conversation partners having different and numerous functions the moment we get into "weapons and equipment."

Discovering and Improving

For the skeleton crew, which has been put together slowly, with a marked increase just before weapons are installed for testing, the ship's construction features an evolution of motivations, behavior, and centers of interest; this is a progressive evolution which however features extreme points that can be characterized.

When it comes to appointing the officer in charge of supervising the assembly work and the personnel from the design bureau, the important thing is to become familiar with the vessel, its power plant, and its energy generation, in order to be able to keep up with the factory tests of the equipment and its installation on board. The careful study of plans, specifications, and notices, the training courses given by the suppliers and keeping track of the work at the plant, in the workshop, and on board lend a highly technical coloration to the concerns and activities of the personnel. The latter will have premises made available by the shipyard, near the actual construction site and it will be possible in some way "from the outside" to watch the way in which "their" ship shapes up.

As the hull gradually rises, as it is topped with superstructures and miscellaneous appendixes, as weapons and equipment are put in place, as interior quarters receive installations and improvements, as certain apparatuses and important networks are ready for operation, the on-board personnel, always guided by plans and specifications, will improve its knowledge of the vessel and will look at everything with the "sailor's eye." This constructive criticism is expressed in the form of proposals for corrections or modifications. The former, pertaining to practical construction details, are submitted to the engineer in charge and, if he ageees, they are put in and they are adopted by the shipyard. Requests

for major modifications involving changes in the specifications and corrections of plans are suggested to the local maritime authority; after that they are studied by the DCAN concerned and they are then transmitted to the department for decision. The dialogue of which they are a subject on the local echelon continues thus at the central echelon where the decision adopted--if favorable--specifies whether the modification should be introduced, that is to say, only on the vessel for which it has been proposed, on all vessels of the particular type or, possibly, all units that use identical or similar equipment.

After the vessel has been launched (in case of construction on the slipway) or after it has been floated (in case of molded construction) and after it has been moored to an "armament pier," where it will spend many months, the "builder tests" begin to be prepared; the crew will witness those tests without however having any part or responsibilities in them. Carried out by shipyard personnel or personnel from subcontractors, these tests enable shipboard personnel to get instruction, to perfect their knowledge of the equipment, and to acquire some initial experience in handling the systems and the ship.

The interior spaces in the meantime are further developed. Personnel assigned to the vessel is consulted on the choice of colors and decoration elements within a certain range; the men may express an opinion on the layout of certain technical sections. The officers and petty officers keep up with the drafting of descriptive notices on the installations for their particular divisions. Drawn up in collaboration with the DCAN at the armament port, these descriptions complete the technical documentation put out by the builders and cover the installations from the viewpoint of their employment in combat and routine service.

The print shop of the local DCAN then--after approval by the designated captain--publish these descriptive documents in suitable numbers.

Living and Working

Sometime before armaments are put on board for tests, after the designated captain has reported for duty, and after new personnel joined the original nucleus, we begin to think of life on board. It is then necessary to make provision for this change in the way of life, to regulate the vessel's internal organization, and to put the organizational documents and material support facilities in place. This is paralleled by training sessions and, if necessary, exercises designed to iron out the kinks in the organization, to correct and adjust functions and instructions, and to make sure that everybody will know the places where he will live and work.

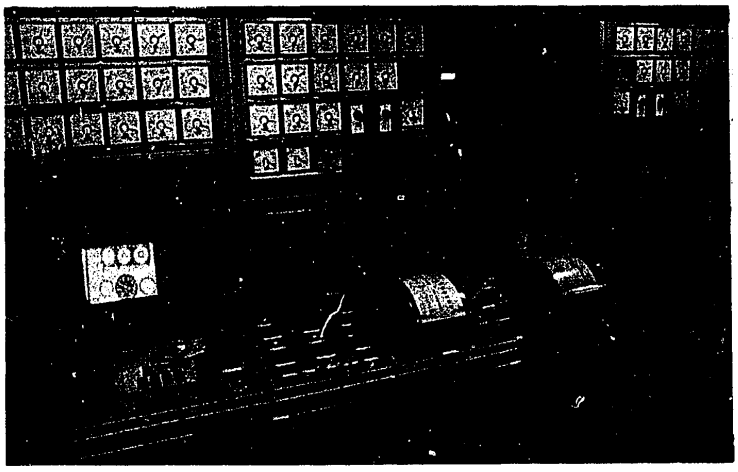
During this phase, good relations between shipboard personnel and shipyard personnel are more necessary than ever before and are certainly put to the test. Some parts of the ship resemble surrealistic paintings, with cables

and pipes of all calibers all in a tangle, all of them of course indispensable for the operation of the many tools or instruments to which they lead, such as miscellaneous electrical currents, compressed air, steam, water, or other fluids. In the narrow, increasingly crowded quarters, many workers must install more equipment and there is a lot of finishing work to be done; the crew learns how to live on board, the members come familiar with the use of the equipment and certain parts of the ship must be cleaned; stores for provisions and equipment are gradually filled. The coordination accomplished by the shipyard's chief engineer and the second-in-command, good prior relations, good will, and a good sense of humor are added to the general feeling of participating in a tangible effort--the construction of a beautiful ship (for everybody of course, his ship is the most beautiful ship)--and all goes well.

The report mentioned at the beginning of this article are then forwarded to the naval general staff, accompanied, if necessary, by observations, by the local maritime authority and they make it possible, from far away, to keep up with the progress of the work. After the technical service has been informed in turn, the dialogue is continued, in Paris and at the naval base and this makes it possible to try to settle as best possible and as quickly as possible any problems that might arise.

The naval general staff is progressively replaced in this function by the permanent testing commission.

PHOTO APPENDIX



Engine room control station, A-69 corvettes.

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COUNTRY SECTION FRANCE

BRIEFS

MITTERRAND TRIP ENDANGERED--[PCF Secretary General Georges] Marchais has tasked Charles Fiterman, who is expected in Moscow with a PCF delegation, with convincing the Soviets to cancel the trip that [Francois] Mitterrand is supposed to make to the USSR. [Text] [Paris PARIS MATCH in French 9 Nov 79 p 70]

NEW GOVERNMENT MINISTRY--A ministry of third-world development will reportedly be created during the next change of government; the Ministry of Cooperation will probably cease to exist. [Text] [Paris PARIS MATCH in French 9 Nov 79 p 70]

COSMOS CONSORTIUM CONTINUES--Members of the COSMOS European industrial consortium, meeting recently in Paris, signed a new agreement which extends for 3 years the cooperation established in 1971 between the firms involved: Aerospatiale (France), SAT [Telecommunications Corporation] (France), ETCA (Belgium), Marconi SDS (Great Britain), MBB [Messerschmitt-Bolkow-Blohm] (Germany), CASA (Spain), and Selenia (Italy). The head of the ESA (European Space Agency), Roy Gibson, who attended the ceremony, wished new success for the COSMOS consortium, whose best known development is the earth-synchronous weather satellite, Meteosat. COSMOS is now building the European scientific satellite, Exosat, which will be launched in 1981, and is participating in the manufacture of eight telecommunications satellites of the Intelsat 5 series, to be used for Intelsat's worldwide network. [Text] [Paris AIR & COSMOS in French 6 Oct 79 p 12] 7679

FOUGA-90 FLIES--The first prototype of the Fouga-90 aircraft, which was equipped with new Turbomeca Astafan IVG motors of 790 kilograms thrust each, flew for the first time using said motors on 26 September at Saint Nazaire. Takeoff took 17 seconds and performance with the new motors is better by 10 percent approximately than that obtained with the first-generation Astafan. The aircraft will be reequipped then transferred to the CEAM [Center for Military Aircraft Experimentation] at Mont-de-Marsan in 1980. [Text] [Paris LE MONITEUR DE L'AERONAUTIQUE in French Nov 79 pp 6-7]

JAGUAR DELIVERIES, IMPROVEMENTS--Of the 200 Jaguar aircraft made for the French Air Force, 170 have already been delivered, with 130 being Jaguar-A single-seaters and 40 being Jaguar-E two-seaters. Thirty more Jaguars are thus still to be delivered. These remaining 30 aircraft in the series will be able to accept laser-guided weapons in the form of two AS-30 missiles. Attempts now underway to improve the Jaguar deal mainly with a simplified automatic pilot perfected by the SFENA, and it is planned later to adapt the more powerful Adour H-58 motor to the Jaguar and modernize the weapons system. [Text] [Paris LE MONITEUR DE L'AERONAUTIQUE in French Nov 79 p 6]

PETROLEUM CONTRACT RENEWAL--The CFP (French Petroleum Company) has high hopes of being able to renew its long-term supply contracts with Iraq. Nothing has as yet been settled but Iraq's leaders have let it be known that they are well disposed in this respect. [Text] [Paris LA LETTRE DE L'EXPANSION in French 29 Oct 79 p 5]

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COUNTRY SECTION ITALY

PLAN TO REFORM WORKING HOURS FOR CIVIL SERVANTS

Milan IL CORRIERE DELLA SERA (Economic Supplement) in Italian 11 Oct 79 p 13

[Article by Benito Carobene, assisted by Carlo Majello]

[Text] A revolutionary, still top-secret proposal is on Civil Service Minister Giannini's desk. It contains a plan to break up the government workers' day with a lunch hour. The purpose of the move is to increase productivity and create new jobs. Salaries will be raised, but nobody will be able to moonlight or engage in other work for pay.

The working day of Italy's civil servants is about to be revolutionized. The plan is already sketched out in some detail. When it takes effect, it will have a profound impact on the life-styles of both government workers and all other citizens who, in one way or another, have to deal with government offices. Let's see what the situation is.

The Civil Service Minister, questioned on the plan, replied: "It is too soon to release any details." The fact is, though, that a draft plan to restructure government workers' working days is ready now, save for the finishing touches. And it is a truly revolutionary plan for Italy's civil service, who for far too long have been accustomed to putting in their time at the desk in comfortable naps.

The restructuring now under consideration is designed to achieve two goals: increase Civil Service productivity, and lay the groundwork for more jobs (which will, to be sure, bring about the best possible utilization of people already in government).

The project, which as of now is still top secret, was drafted by a study commission made up of high officials in the Civil Service and by docents and experts from the staff of Mr Giannini, a university professor and a scholar of administrative matters.

Insofar as we could find out now, the main provisions of the plan are these: a short work week, morning and afternoon hours, economic incentives to induce public servants not to look for moonlight jobs (something which the current straight-through workday actually encourages). Reorganization of the workday would come about in two phases. Initially, the workday would be legally defined (this might be done within the master plan for government employees which should shortly be approved by Parliament). In this connection we can say only that at the ministry they are thinking in terms of a 40-hour week, although the unions want a 36-hour-a-week ceiling.

When that is done, it would be up to individual contract negotiators to write in the details of the shifts designed to spread the requisite number of hours over the span of the week. It is clear even now that the requirements vary from one office to another. In some cases, such as the service agencies and the post office, the split shift is practically indispensable. For ministries, too, it might be very helpful to arrive at a split shift arrangement that in practical application would cover the whole of the working day. In this case, though, provision must be made to give government workers all the amenities (such as cafeteria facilities) already available to many workers in the private sector.

One thing that is certain is that, in addition to the studies now going on in the ministry Giannini heads, other ministries are busily studying and analyzing the problem in commissions set up for the purpose. We managed to get a look at two documents developed by two other ministries. Even though these studies, like everything connected with this whole business, are kept strictly secret, we can provide something by way of a preview.

The first of these reports says: the length of the workday must take into account the kind of work being done, the requirements of users, and the family needs of the workers themselves. The workday may be: straight through, with brief breaks; split (into morning and afternoon); or flexible (with all hours on the job falling during the hours of peak productivity). The same document, though, underscores the presence of a number of contextual requirements having to do with social services: schools, shelters, nursing homes, daycare centers, and canteens and cafeterias.

This study, too, stresses the advantages that would stem from the restructured workday:

A. elimination of overtime, or its reduction to rare and exceptional occasions;

B. elimination of moonlighting and of unreported paid work;

C. reduction of absenteeism;

D. a chance at last of getting a government work force truly at the service of citizen users.

Let's move on now to look at the study conducted by the second ministry, which opens with the statement that as of now, the workweek, as applied in most government offices, permits at least 50 percent of government workers to hold down a second and sometimes even a third job. This being the case, says the document, government employees tend not to devote excessive zeal or diligence to the tasks assigned them at the office, but save their energy for the job in the private sector where employers generally are far more demanding. The private sector, let us bear in mind, unlike the government, maintains continuous supervision over the quantity and quality of work performed.

This whole situation gives rise to the necessity for standardizing the workweek at 40 hours, spread over 5 days: 4 hours in the morning and 4 hours in the afternoon, with one hour off for lunch.

As for part-time work, the authors of the study report feel it would be advisable to regulate it too, as is done in other European countries. They suggest something along these lines:

A. in exceptional cases and for properly documented reasons (of a family, health, or educational nature), an employee could be permitted to perform his assigned duties on a part-time basis (permission to do so would be granted for a year at a time, and might be renewed annually up to a maximum of 3 years);

B. a worker on part-time would be required to be on the job daily for a length of time equal to half his usual workday;

C. throughout the period in question remuneration should be half of that for full-time work;

D. the worker on short hours would not be permitted to engage in other remunerative work, but would retain his seniority for purposes of in-grade salary increases and promotions.

In both the studies we saw there was reference to the possibility of achieving here in Italy what is already standard practice in other countries (such as North America): working women could be placed on inactive status for a period of from 5 to 15 years, and then reinstated in grade at the end of that period.

But just what is the situation right now? Theoretically, civil servants work a 42-hour week, broken into 6 days per week, although in practice that works out at 36 hours in a 6-day week. The single continuous workday "for government offices and public agencies in the capital" was established by decree in 1939.

That particular measure has been challenged repeatedly, both before the Council of State and before the Constitutional Court, but in every case it has been upheld. To be precise, it was altered only by removal of the requirement (included in the original decree) that all government officials working in Rome spend 4 hours in the office on Sundays as well. Those who actually work a 40-hour week are manual workers in the civil service, in the autonomous state-owned corporations (except for some special cases), firemen, hospital staff personnel, workers employed by paragovernmental agencies, and those working for some local public agencies. Workers employed in regional offices work anywhere from 36 to 38 1/2 hours a week.

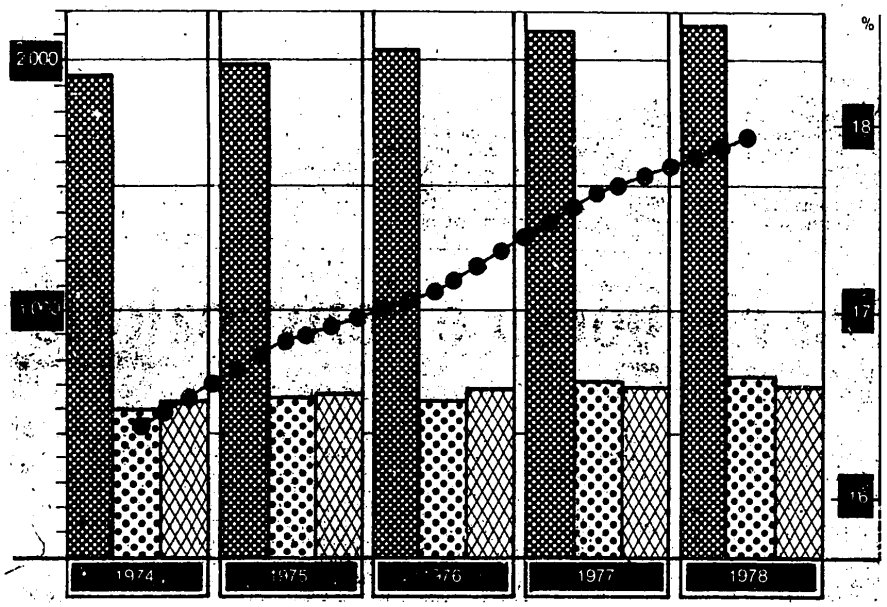
Things get a bit more complicated when it comes to teachers, because of the necessary distinction between hours in school and hours actually spent in teaching: no teacher can stand before a class the whole time he or she is in school, but each of them must devote time to other activities connected with the job.

In any case, though, we must remember that an hour of actual teaching is a lot more demanding than an ordinary hour in the office, during which one might even make a phone call.

Executives are covered by a 1972 presidential decree which provides that the workweek established for all civil servants shall be increased by 10 hours per week, to be distributed according to the dictates of the job.

Senior executives and those who have special skills, in cases where the service dictates it, are required to work even beyond the statutory workday without any additional or special compensation.

How Many Workers Are Affected



Workers directly affected by the proposed measures exceed 3.5 million, but their number is destined to grow. In fact, as the graph shows, their number increases regularly: for each year the vertical lines show, from left to right, the employees of the state administration, of the provincial agencies and other public agencies (in thousands). The central curve, however, shows how the percentage of all the above-mentioned employees varies in respect to the total number of employed workers.

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